

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper and for Transmission Abroad.]

No. 2422.—Vol. LII.

LONDON, SATURDAY, JANUARY 21, 1882.

[WITH SUPPLEMENT.] PRICE SIXPENCE PER ANNUM, BY POST 4s 6d.

**MR. JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.**  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.  
Business negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week.

MINES INSPECTED.  
BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—  
50 Almaden, 6s. 25 Hingham Down, £139  
50 Bich United, 21s. 50 Herodfoot, 6s. 9d.  
50 Carnarvon Cop., 17s. 25 Indian Kingston, 13s. 6d.  
50 Callao Bis. 100 Javali, 6s.  
10 Devon Con., £6 17s. 6d. 25 Killfret, £2.  
50 Devon Friend, 14s. 25 Kapanga, 12s.  
50 East Caradon, 13s. 9d. 25 Langford, 10s. 6d.  
50 East Chiverton, 21s. 100 Last Chance, 10s. 9d.  
25 East Lovell, £2 18s. 9d. 20 Leadhill, £2 2s. 6d.  
25 E. Roman Grav., 15s. 30 Marke Valley, £1.  
30 East Van, 16s. 3d. 150 Nouv. Monde, 9s. 6d.  
50 Frontino, £3 2s. 6d. 50 No. Penstruthal, 13s. 9d.  
25 Glenrock, £1 3s. 9d. 50 New W. Caradon, 10s.  
70 Glenroy, 9s. 9d. 80 Pandora, 10s.  
20 Grogwinton, 22s. 6d. 50 Polrose, 10s.  
100 Gt. So. Mysore, 5s. 3d. 50 Port Phillip, 5s. 3d.  
75 Parys Copper, 16s. 50 Potosi, 13s. 9d.  
75 Parys Copper, 16s.

SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.  
SPECIAL BUSINESS AT CLOSE PRICES in all Market TIN, COPPER, and LEAD SHARES.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.  
ESTABLISHED 1842.

**RAILWAYS—FOREIGN BONDS—SPECIAL BUSINESS.**  
Fortnightly Accounts opened on receipt of the usual cover.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**AMERICAN AND CANADIAN STOCKS AND SHARES—SPECIAL BUSINESS.**  
Fortnightly Accounts opened on receipt of the usual cover.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**INDIAN GOLD MINES.—SPECIAL BUSINESS in:—**  
Coolacool, Indian Kingston, Rhodes Reef.  
Devala Moyer, South-East Wynaad.  
Devala Central, Mysore.  
Great Southern Mysore, Mysore Reefs.  
Indian Glenrock, Oregum.  
Indian Phoenix, Oregum.

At CLOSE MARKET PRICES, free of commission.  
Reliable information given on any of the above. A daily price list issued giving closing quotations. SPECIAL BUSINESS in La Plata, Rio Tinto, Frontino and Bolivia, Potosi, Ruby, Nouveau Monde, and Richmond.

SHARES IN THE ABOVE INDIAN OR OTHER GOLD AND SILVER MINES SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.**  
44, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.  
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS.  
TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.  
Accounts opened for the Fortnightly Settlement  
A List of Investments free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—  
150 Almaden, £24 1/2. 25 East Blue Hills. 150 Port Phillip, 5s. 6d.  
150 Almaden, offered wanted. 25 East Caradon, 6s. 3d. 25 Panulicid, 4s.  
70 Almaden, 6s. 9d. 40 Frontino, £3 1/2. 60 Parys Copper, 16s.  
30 Bedford United. 100 Gold Coast, 30s. 0d. 20 Pumas Eureka.  
60 Bratsberg, 36s. 0d. 15 Great Holway. £2 12s. 6d.  
5 Carn Brea. 50 Goodereve, 23s. 6d. 150 Quartz Hill, 4s.  
50 Colorado, 39s. 6d. 100 Glenroy, 10s. 30 Ruby, 40s. 0d.  
25 Copalpo, £3 12s. 6d. 25 Hingham Down, 21s. 6. 25 Richmond, £13 1/4.  
100 Carnarvon, 17s. 0d. 100 Indian Glenrock, 21s. 9. 70 Rhodes Reef, 13s. 9d.  
75 Callao Bis, 13s. 6d. 100 Indian Phoenix, 15s. 50 South Devon, 21s.  
100 Callington Consols. 25 Killfret. 100 South Indian, 21s. 6d.  
50 Devala-Moyer, 22s. 75 Langford, 13s. 60 Tankerville, 9s. 9d.  
70 Dev. Friendship, 17s. 20 Mellanear. 40 Wheel Jewell, 10s.  
15 Devon Consols, £26 1/2. 25 Marke Valley, 23s. 6d. 15 Wh. Grenville.  
20 Derwent, 21s. 25 New Quebrada, £24 1/2. 50 W. Godolphin, £2 1/2.  
2 Dolcoath. 150 Nouv. Monde, 7s. 6d. 10 West Kitty.  
40 Don Pedro, 8s. 6d. 60 Pen-yr-Osedd, 20s. 50 Wheel Boys, £2 1s.  
50 Eberhard, 11s. 100 Potosi, 13s. 6d.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

MR. BUMPUS devotes special attention to these securities, and is in a position to afford reliable information and advice to intending investors and others.

IMPORTANT TO INVESTORS.—Shares in SOUND DIVIDEND and PROGRESSIVE MINES (particularly TIN and COPPER) should be bought at present prices, as many of them are likely to have a considerable rise before long. Those who have followed my advice during the past few months can now realise good profits, and there is every probability that much higher prices will be reached early in the New Year.

The following are particularly recommended:—  
WHEAL GRENVILLE. WEST GODOLPHIN.  
WHEAL KITT. WHEAL BOYS.  
WHEAL PEEVOR. DEVON FRIENDSHIP.

WILLIAM HENRY BUMPUS, SWORN BROKER.  
OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1867.

**MESSRS. ABBOTT AND WICKETT, STOCK AND SHARE BROKERS, REDRUTH.**  
ORDERS BY TELEGRAM PROMPTLY EXECUTED.

**MR. GEORGE BUDGE, STOCK AND SHARE DEALER.**  
9, GRACECHURCH STREET, LONDON, E.C. (Established 28 years).  
ALL BUSINESS TRANSACTED FREE OF ANY CHARGE FOR COMMISSION.

Notice to Investors and Speculators. Mr. Budge has DEALINGS in:—  
40 Bedford United. 30 Goodereve. 80 Pestarena.  
50 Bratsberg. 10 Goginan. 55 South Indian.  
50 Bodidris. 50 Hoover Hill. 20 South Devon.  
50 Carnarvon. 25 Hingham Down. 50 South Penstruthal.  
30 Carn Brea. 25 Indian Phoenix. 35 South Tolcarne.  
100 Derwent. 25 Kit Hill. 100 Tolima.  
100 Don Pedro. 100 Kapanga. 10 West Kitty.  
20 East Chiverton. 20 Lead Hill. 100 West Polbrean.  
65 East Blue Hill. 25 Langford. 100 West Caradon.  
5 East Caradon. 30 New West Caradon. 40 West Godolphin.  
5 Frongoch. 30 Ouel Tor. 20 West Phoenix.  
5 Ganton. 30 Penhall. 70 Wheel Jewell.  
100 Glenroy. 100 Prince of Wales. 40 West Kitty.  
120 Gold Coast. 25 Parys Copper. 40 West Kitty.  
SPECIAL BUSINESS in West Polbrean, Wheal Agar, West Kitty, Wheal Kitty, New Kitty, Frongoch, Goginan, Ganton, and East Blue Hills.

**BRITISH AND FOREIGN MINING OFFICES.**  
Messrs. PETER WATSON AND CO.,  
AUSTIN FRIARS  
OLD BROAD STREET, LONDON, E.C.  
BANKERS: THE ALLIANCE BANK (Limited).

**MESSRS. PETER WATSON AND CO.'S**  
BRITISH AND FOREIGN MONTHLY MINING NEWS  
—STOCK AND SHARE INVESTMENT NOTES—MINES,  
MINERALS, AND METAL MARKETS—SHARE LIST.  
No. 838, VOL. XVII., for JANUARY month, will shortly be ready, and will be sent to customers on application.

Annual Subscription..... 5s. Single Copy..... 6d.

**MESSRS. PETER WATSON AND CO.,**  
18, AUSTIN FRIARS, E.C.

**NOTICE OF REMOVAL.**

MR. ALFRED E. COOKE begs to announce that in consequence of the Offices at 78, Old Broad-street, which he has occupied for over 15 years, being required for the enlargement of the Stock Exchange, he has REMOVED to—  
No. 9, OLD BROAD STREET.  
(NEARLY OPPOSITE.)

**MR. ALFRED E. COOKE,**  
DEALER IN BRITISH AND FOREIGN STOCKS AND SHARES  
OF EVERY DESCRIPTION.  
9, OLD BROAD STREET, LONDON.  
ESTABLISHED 1853.

**STOCKS AND SHARES FOR SALE.**

Mr. ALFRED E. COOKE can sell the following lots (or any smaller number of shares) to immediate applicants at prices annexed, free of commission. Where prices are not inserted, the market price of the day will be taken, or offers may be made:—

50 Almaden Cop., £24 1/2.	20 Frontino Gold, £3 1/2.	10 Richmond Silver,
20 Bedford United Cop., £14 1/2.	30 Herodfoot, Lead, 6s.	10 Roman Gravel Lead,
80 Bratsberg Copper, 34s.	50 Indian Glenrock Gold	40 Ruby, 39s.
25 Carnarvon Copper, 15s.	22s. 6d.	30 Santa Cruz Sulphur,
20 Carn Brea Tin, £25 1/2.	50 Indian Trevelyan	12s.
30 Chontales Gold, 3s.	Gold, 15s.	50 South Devon Copper,
30 Callao-Bis Gold, 11s. 9	20 Killfret Tin, £2 1/2.	20s.
25 D'Esrey Mountain	50 La Plata Lead, £2 1/2.	80 South-East Wynaad
Lead, £2 1/2.	20 Leadhill, £2 1/2.	Gold 22s. 6d.
100 Devala Gold, 22s. 6d.	25 Langford Silver and	50 So. Indian Gold, 22s.
40 Devon Friendship,	Copper, 10s.	45 Sortridge Copper and
12s. 3d.	50 Mona Consols Copper,	Tin, 13s. 9d.
50 Devon Great United,	23s. 9d.	50 Tamar Silver-Lead, 20s
£1.	10 Morfa Du, 10s. 6d.	60 Tankerville Great
10 Devon Consols Cop.,	40 Mysore Gold, 22s.	Consols, 7s.
£26 1/2.	50 Mysore Reef Gold, 6s.	95 West Crebor Copper,
2 Dolcoath Tin, 87 1/2.	10 New Kitty Tin, £2 1/2.	5s. 9d.
20 Don Pedro Gold, 7s. 3	100 New West Caradon	25 West Phoenix Tin and
10 East Chiverton, £17 1/2.	Copper, 8s.	Copper, 20s.
10 East Lovell Tin, £22.	40 No. Herodfoot, 7s. 6d.	10 West Kitty Tin, £2 1/2
40 East Roman Gravel	100 Nouveau Monde Gold	20 West Polbrean Tin,
Lead, 15s.	9s.	£1 1/2.
90 East Rose Lead, 10s.	40 Polrose Tin, 12s.	20 Wheel Jane Tin, 25s. 6
110 East Blue Hills Tin,	40 Potosi Gold, 11s. 9d.	5 Wheel Agar Tin, £14.
11s. 9d.	100 Parys Copper, 15s. 6d.	5 Wheel Crebor Copper,
90 Eng.-Australian Gold	30 Pioneer Copper and	3s.
14s.	Lead, 17s. 6d.	60 West Lisburne Lead
	50 Pines of Wales Cop.,	20s.
	18s.	

Many of the above shares can be sold for settlement by arrangement at end-February on payment of 20 per cent. deposit. Shares not found in the above list may be purchased on application.

N.B.—The present is a most favourable time to purchase shares in ESTABLISHED TIN and COPPER MINES at cheap prices.

Mr. Alfred E. Cooke is buyer of shares in all the LEADING MINES at current market price.

Investors should send for the INVESTORS' GAZETTE, to be published NEXT FRIDAY.

TELEGRAMS and LETTERS receive immediate attention. All shares currently dealt in, bought and sold, free of commission.

ALFRED E. COOKE, 9, OLD BROAD STREET, LONDON.

(Opposite the Stock Exchange, with which the offices are in DIRECT TELEGRAPHIC COMMUNICATION.)

**STOCKS AND SHARES, FOREIGN BONDS, TELEGRAPHS, RAILWAYS, AND OTHER LEADING SECURITIES.**

**MR. JAMES STOCKER, STOCKBROKER,**  
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

Special Business at close prices in all British, Colonial, and Foreign Mine Shares.  
BANKERS: LONDON AND WESTMINSTER.

**FERDINAND R. KIRK, STOCKBROKER,**  
5, BIRCHIN-LANE, LONDON, E.C.

Fortnightly Accounts opened in all Stock Exchange Securities on receipt of the usual cover.  
BANKERS: LONDON AND WESTMINSTER, Lothbury.

**MR. W. B. COBB, STOCK AND SHARE DEALER,**  
29, BISHOPSGATE-STREET, LONDON, E.C.

**STOCK AND SHARE DEALERS' NOTICE.—**  
WEST KITT.

Purchase strongly recommended for investment. Information as to shares generally of all descriptions.

In consequence of great pressure of business, Mr. Reynolds's Article will not appear this week, but next Saturday it will be of additional importance.

Apply to—  
JOHN B. REYNOLDS, 37, WALBROOK, LONDON.  
BANKERS: LONDON JOINT-STOCK.

**MESSRS. J. TAYLOR AND CO.,**  
MINING ENGINEERS AND INSPECTORS,  
88, LONDON WALL, LONDON, E.C.

Have Agents in the various Mining Districts of Great Britain, the Continent, Australia, and the United States of America.

Inspections undertaken, either personally or by our Agents, and Reports of Advice as to Working given.

**THE "DIFFERENTIAL" PUMPING ENGINE**  
(DAVEY'S PATENT),  
FOR

DRAINING MINES, WATER SUPPLY OF TOWNS, IRRIGATION.  
SUPPLYING DOCKS, PUMPING SEWAGE, and GENERAL  
PUMPING PURPOSES.

**HATHORN, DAVEY, AND CO.,**  
LEEDS.

HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500-horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.

See Illustrated Advertisement every alternate week.

**MR. CHARLES THOMAS,**  
MINING AGENT, STOCK AND SHARE DEALER,  
3, GREAT ST. HELENS, LONDON, E.C.

**MR. ALFRED THOMAS,**  
MINING AGENT, STOCK AND SHARE DEALER,  
10, COLEMAN STREET, LONDON, E.C.

MINING INVESTMENTS.—Third Edition, just published.  
"What to Select, and What to Avoid," by ALFRED THOMAS, 10, Coleman-street, London, E.C. Will be forwarded on receipt of 12 stamps.

**MR. EDWARD ASHMEAD, 2, DRAPER'S GARDENS, E.C.,**  
MINING SECRETARY, AUDITOR, AND ACCOUNTANT.

**HORACE J. TAYLOR, STOCK AND SHARE DEALER,**  
38, GREAT ST. HELENS, LONDON, E.C.  
October Circular now ready, and can be had on application.  
BANKERS: THE CENTRAL BANK OF LONDON (Limited).

**MR. JOHN RISLEY, STOCK AND SHARE BROKER,**  
38, CORNHILL, LONDON, E.C.  
ESTABLISHED TWENTY YEARS.

BANKERS: LONDON AND WESTMINSTER (Lothbury).  
Shares specially recommended for immediate investment, viz.—West Caradon New West Caradon, Polrose, Parys, Sortridge, Wheal Crebor, West Crebor, East Blue Hills, and Langford. These shares are likely to advance in price many hundreds per cent. within a very short period.

**MR. E. J. BARTLETT, 30, GREAT ST. HELENS, LONDON,**  
E.C., has special dealings in Stock Exchange Securities and Miscellaneous Shares of every description.

Circulation ever increasing. Sixteenth Edition just out.  
"HOW TO INVEST."

"More valuable than ever."—Vide public Press. Post free 1s.  
Published by E. J. BARTLETT, F.R.G.S., 30, Great St. Helens, London, E.C.

**MESSRS. ENDEAN AND CO., STOCK AND SHARE**  
DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.  
ESTABLISHED 1861.

BANKERS: London and Westminster, Lothbury, E.C.

**ABBOTT AND CO.,**  
STOCK AND SHARE BROKERS.  
9, CORNHILL, LONDON.

IMPORTANT DISCOVERY OF COPPER AT THE SILVER HILL MINE.  
See report in this day's Journal.

Mid-monthly Circular post free on application.

**MESSRS. F. E. WATSON AND CO.,**  
FINANCIAL AGENTS,  
STOCK AND SHARE DEALERS,  
4, COTTHALL BUILDINGS,  
THROMORTON STREET LONDON, E.C.

F. E. W. and Co. strongly recommend an investment in the following companies at present prices:—  
British & Foreign Boat East Chillian Man- Perran Silver-Ld., 22s. 6  
Lowering, 27s. 6d. ganese, 45s.

**MR. H. LAMBERT**  
(Late Bartlett, Lambert, and Co.),  
STOCK AND SHARE BROKER.

Begs to notify that he has REMOVED from 110, Cannon-street, to 42, OLD BROAD STREET, E.C., in order to secure more ready communication with the Mining Market and the Stock Exchange.

MR. LAMBERT, having daily communication with Agents in Cornwall, is in a position to TRANSACT BUSINESS in MINING SHARES at the lowest quotations of the day; also to advise for the selection of Securities, and to procure independent Inspections, trustworthy Reports, &c., on advantageous terms.

SPECIAL DEALINGS IN:—  
DOLCOATH. EAST POOL. WEST BASSET.  
WHEAL PEEVOR, WHEAL GEORGE, and DINGLEY DELL.

PROGRESSIVE MINES RECOMMENDED FOR A RISE.—  
EAST UNY. SOUTH DOLCOATH. WEST KITT. WEST POLDICE.

And some others situated in the richest district of Cornwall, which, under new management, are likely to double their value within a few months.  
BANKERS: THE ALLIANCE BANK (Limited).

**GRANVILLE SHARP, STOCK AND SHARE DEALER,**  
32, QUEEN VICTORIA STREET, LONDON, E.C.

Still recommends the purchase of shares in SOUND BRITISH MINES for advance in price and increased dividends. In consequence of the generally improving condition of Trade and Commerce, the market for all metals must necessarily continue to improve, and the shares in all Sound British Mines are certain to advance proportionately.

**EAST CHIVERTON SILVER-LEAD MINES.**

GRANVILLE SHARP specially recommends the purchase of shares, the mine being on the eve of proving a very valuable property, as evidenced by the recent important discovery in the 95 fm. level driving west, where is a course of rich silver-lead ore already proved for over 30 fms., and has opened up valuable reserves which are being increased daily between that (95 fm.) level and the level over. A second 50-ton parcel of the ore was sold recently realising £631 5s. It is an important fact that EAST CHIVERTON MINE is on the same lode which in the mine immediately west produced between the years 1853 and 1872 silver-lead ore that realised very nearly HALF A MILLION STERLING, and between 1875 and 1880 LEAD and BLENDS ORES amounting to £110,000. These facts can be verified by the books in Mr. Granville Sharp's possession, at 32, Queen Victoria-street, E.C.

BANKERS: London and Westminster, E.C.

**MESSRS. H. MANSELL AND CO., STOCK AND SHARE**  
DEALERS, 19, BISHOPSGATE STREET WITHIN, LONDON, E.C.  
TWENTY-SEVEN YEARS' EXPERIENCE.

**MR. ALEXANDER DAVIDSON,**  
STOCK AND SHARE DEALER,  
130, LEADENHALL STREET, LONDON, E.C.

SHARES ARE FOR SALE, or OFFERS CAN BE MADE:—  
100 Bodidris, 5s. 6d. 70 Killfret, 37s. 200 Sortridge Con. (£1  
100 Bratsberg, 35s. 200 La Plata, £2 2s. 3d. paid), 15s.  
150 Devon Friendship, 25 Mons. £8 1/2. 100 South Devon United,  
13s. (£1 paid). 165 Oregum Gold, in one £1 4s. 6d.  
40 Devon Great Consols, 10s. 21s. 50 Tamar Silver-Lead (£1  
£26 1/2. 90 Parys, 15s. paid), 15s.  
100 East Blue Hills, 13s. 6 110 Pen-yr-Gras, 17s. 20 Van, 45s.  
240 E. Wh. Rose, £1 pd. 70 Prince of Wales, 18s. 20 West Crebor, 6s. 3d.  
190 E. W. Rose, 15s. paid. 110 Potosi, 13s. 30 Wheel Crebor, £23 1/2.  
100 Frongoch, £2 17s. 100 Polyn Wood. 100 Wheel Hony and Tre-  
120 Ganton, 15s. 6d. 65 South Darren, £1 2 6 lawny.  
60 Hingham Down, 23s. 6 117 Wheel Jewell, 8s.

NOTE TO INVESTORS.—SHARES IN ANY OF THE ABOVE CAN BE SECURED FOR PAYMENT MIDDLE OF FEBRUARY, 1882, ON PAYMENT OF 20 PER CENT. CASH.

BUYER OF SHARES IN THE FOLLOWING MINES:—500 Wheel Jane, 25s.; 150 Michipicoten; and 300 Mons.

SELLERS MUST STATE NUMBER AND LOWEST PRICE FOR CASH.



**HOLLOWAY'S OINTMENT AND PILLS** effect wonderful cures of bad legs and other chronic diseases. The medicines are wrapped round each pot and box, there is no need to direct the directions which are, however obstinate, but yield to their curative properties. Numbers of persons who have been patients in the large hospitals, and under the care of eminent surgeons, without deriving the least benefit, have been cured by Holloway's Ointment and Pills. It is a certain remedy for all kinds of swellings, tumours, scurvy, and diseases of the skin, in which there is no medicine that can be used with so good an effect. Though potent for good, it is powerless for



## Meetings of Public Companies.

## FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY.

The ordinary meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Tuesday.

Mr. THOMAS EYRE FOAKES in the chair.

The CHAIRMAN said a very important position in their history had come about. He was afraid there was growing up amongst the shareholders somewhat of a feeling of uneasiness in reference to the large expenditure which had been going on at their mines. He was afraid that the feeling extended a little to the board, for, of course, Mr. White had made this expenditure, which the shareholders had not been called upon to sanction, and to a certain extent the directors were responsible for the acts of the manager; but when they heard what he had to say in reference to the very large improvements which had been made in the mines since the last meeting he hoped he would be able to satisfy them that Mr. White had rendered very faithful service to the company, and that though he had spent a good deal of money he had spent it properly, and in the true interests of the shareholders. It would like to call their attention to the state of the mines in October, 1878, at which date Mr. White became the resident superintendent. Up to that time the mines had been worked in a very inefficient way; that was to say, in the manner common to the natives of the country. They only understood surface mining; but it would be seen that by working the mines in depth their two deepest mines were now producing something like 3 ozs. of gold to the ton, instead of the surface workings of the previous managers. With reference to the very substantial work which Mr. White had done for the company, he had, in the first place, dealt with the woods, which previously were cut down in a most improvident and improper manner. Then he had substituted mules and oxen for hand labour, and at a very considerable saving of money. He had cultivated the land and carried on the farm in such a way that the provisions had been provided at a much less cost, the saving on this head alone having been something like 1950*l.* in the year. He had really had almost entirely to reconstruct most of the mills and a great number of the mines. He could not better describe the difficulties which Mr. White had had to contend with than by referring to the Silencio Mine, which was worked as a surface mine by Mr. White's predecessor, Mr. Baranelli, who proposed to put in levels 10 feet apart, thus rendering necessary very expensive mode of working. If they turned to the last monthly report they would see that the Silencio Mine had actually produced 1230 ozs. of gold out of the total produce of the whole of the mines of 2880 ozs. He thought, therefore, they might see that the expenditure at Silencio, although it had been a very large one, had been a very useful and productive one. There had been a good deal more money spent on this mine than had been originally anticipated, principally owing to the fact that the sludges from the native workings penetrated into the 53 fms level south cross-cut; there had been spent on this cross-cut alone 4000*l.* The mine was now in a very prosperous state, and gave credit to those who had the conduct of it. Then, with regard to the Salada Mine, that had been a source of very large expenditure. They had to erect new mills and new shops for the workmen and stores, and the mine from the first to the last had cost something like 10,000*l.*, but they now had in that mine over 25,000 tons of ore in reserve and ready to stoop away, and Mr. White stated that these reserves were worth 25,000*l.* in hard cash, while in another report he stated that the mine was worth 80,000*l.*; he anticipated the crushing from this mine alone at 1000 tons every month, and that it would be one of their best and most profitable mines. He (the Chairman) deeply sympathised with the shareholders in having to wait so long for dividends. With regard to the Pocuné water rights, Mr. White obtained those for 200*l.*, but they had had to construct a very difficult aqueduct extending over 12 miles of rugged country, and the completion of this work would alone stamp Mr. White's reputation as a good engineer and a good miner. The cost of this aqueduct was estimated at 6000*l.*, and up to October they had derived very little benefit from it. It would, however, very soon enable them to work much more economically than they had previously done. It should be remembered that Mr. White until recently was in receipt of a salary of only 500*l.* a year, but had lately had that salary increased to 750*l.*, with 3 per cent. divisible between himself and his brother on the dividends paid to the shareholders, so that Mr. White in making this expenditure and appropriating the profits to the development of the mines had really been depriving himself of a very considerable sum annually. (Hear, hear.) He had been most disinterested, and had thoroughly identified himself and his reputation with the company. Mr. White was an exceedingly clever man and bore a very high reputation, and had, in fact, incurred a heavy personal pecuniary loss by giving up his private practice and devoting himself to the management of the company. The reserves of the mines had been accumulating at an enormous rate; in fact they had accumulated 3 fms. of reserves to 1 fm. stooped. During 1881 the dry season, which usually ended about the middle of April, continued until October, so that they had had four months more than the ordinary amount of dry season, and the mines had suffered on that head. (Hear, hear.) They would, therefore, see why Mr. White's anticipations of profit had not been realised this year. It was, of course, open to him to discharge some of the miners, in the hope of getting them back in five or six months, but that would have been a very unwise proceeding, and a folly which he (the Chairman) would have deeply regretted to see committed. With reference to the Cordoba and Garibaldi Mines, the Chairman entered into the details of the terms on which the mines had been acquired—the former for 4800*l.*, and the latter for 3200*l.*—and stated that Mr. White had offered to take both the mines back from the company at the prices paid for them if the shareholders were dissatisfied with the purchase. The Chairman also read a letter sent to Mr. White which, while approving of the purchase, pointed out that it was very undesirable to increase the expenditure on the mines in the circumstances. Some of the gentlemen who had sent circulars to the shareholders had thought that the directors had done very wrong in not consulting the shareholders before the spending their profit in this way. There was something to be said on the point no doubt, but it should be remembered that they were a long way from the mines, and were obliged to place a considerable amount of discretion in the hands of their manager. It was no doubt a great disappointment that they had not been able to maintain the quarterly dividends promised at the last meeting—a promise made on the authority of Mr. White, who had undoubtedly made a mistake in estimating the amount of outlay necessary, and the time over which the outlay would extend. The Chairman then stated that it would be desirable, at a special meeting to be called, to take power to create 10,000 additional shares of 2*l.* each, which might be issued to the shareholders at a premium of 10*l.* each. From the amount thus raised they would be able to pay for the Cordoba and Garibaldi Mines, and to return to revenue the 6512*l.*, which had, since the closing of the accounts (June 30 last) been spent on capital account, and the profit really made would then be available for distribution. Mr. White had undoubtedly done all he could to promote the interests of the company, but in future the directors would exercise more control over the extraordinary expenditure than they had hitherto done. With reference to the circular issued by some of the shareholders, holding together 2500 shares, the directors were in that document asked what had become of the 13,250*l.* which was available for capital purposes at the last meeting. The shareholders had already been informed that 4000*l.* odd would be necessary in reference to the Pocuné water supply. The balance had been spent in creating very large reserves in the mines, especially in Salada, and in developing to a very large extent the Salada, Salada, and Victoria Mines, and also in developing the Palmachela and other mines of the company; but this expenditure had been stated in each of the monthly reports. The directors had had the pleasure of meeting some of the gentlemen who signed the circular, and he understood that the real grievance of their complaint was that the directors had no authority to spend the revenue of the company on the development of the mines without consulting the shareholders; but it would be impossible to exercise so much control as these gentlemen thought would be desirable in the case of properties so far distant from this country. He might mention incidentally that certain gentlemen largely connected with South America had offered to take 30,000*l.* more capital at a certain premium, if the company chose to issue that amount. (Applause.) The Chairman also briefly referred to the claim of the vendors, and stated that sooner or later they would probably have to pay three-fifths of 5000*l.*, and in conclusion invited comments and enquiries.

Mr. THOMAS BAXTER, in the course of a long address, criticised the management of the company, and expressed his belief that 10,000 new shares of 2*l.* each would be quite inadequate if all the schemes proposed by Mr. White were to be carried out. They were told when the last 5000 shares were issued that they would be all that would be required, and indeed, it was never intended to issue all those shares except for the Pocuné water. He also retorted at great length to the increased cost of treating the ores, and to the fact that the mine paid with 3½ dwts. of gold to the 1 ton at one time, and yet it did not pay now with 1½ oz. to the 1 ton. Mr. White might be a very able miner and a very efficient engineer, but his capability as a manager of such a large concern was a totally different matter. (Hear, hear.) He thought the directors had gone on in blind expenditure until Mr. White, and he believed they had never really sanctioned the expenditure until they could do nothing else. They had 16,000 acres in the mines other than Cordoba and Garibaldi, and he thought they had quite enough to do and might let those properties alone. He suggested that the meeting should be adjourned so that the whole of the matters should be properly and fairly considered. (Hear, hear.)

Mr. SEAL followed with a lengthy criticism of the management of the mines, and contended that the directors were not justified in dealing with the revenue as they had done. He suggested the appointment of a committee of shareholders. ("No," and "No wreckers!")

Mr. H. STAPLES, while thinking that Mr. White had been working the property as if for a future generation, considered that the expenditure had been judicious. He suggested that the directors should invite one or two of the largest shareholders to consult with them as to the proper course to be pursued. (Hear, hear.) He thought that if Mr. White had erred at all it had been in his endeavours to promote the interests of the company. (Applause.)

The CHAIRMAN, after some further discussion, replied at length to the criticisms offered. With regard to the increase in the costs of working the mines, it should be remembered that a few years ago the operations were simply at surface, but they were now developing the mine in depth, sinking shafts, and driving levels on a very different system to that which had hitherto prevailed. Then the dry weather of 1881 had been very adverse to the company. There was very little to consult about, but the Board would be happy to meet any of the large shareholders. He spent over three hours with Mr. Thomas Baxter endeavouring to convince him, but had failed to do so, and of course that might be the case with the other shareholders, so that after all matters would have to be left to the general body of shareholders. The Chairman having disposed of the points raised moved the adoption of the report.

The Hon. F. O. DUMFRIES seconded the proposition.

Mr. THOMAS BAXTER proposed an amendment that the report and accounts should be received but not adopted, and that a committee of six shareholders should be appointed to confer with the board.—Mr. SEAL seconded the amendment, which upon being put was lost, and the original resolution was carried by a large majority. The accounts were also passed.

The retiring directors, Messrs. William Baxter and R. P. D. Monypenny, were re-elected, and Mr. Tilley (the auditor) was also re-elected.

On the motion of Mr. THOMAS BAXTER, seconded by Mr. LOWE, a vote of thanks was passed to the Chairman and directors, and the proceedings then closed.

## ANTIOQUIA (FRONTINO) COMPANY.

The ordinary meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Tuesday.

Mr. THOMAS EYRE FOAKES in the chair.

The CHAIRMAN said the position of the company was one which he hoped would shortly come to an end very favourably to the shareholders. In the report it was stated that Mr. White had told them that the deep adit, upon which the whole life of this mine rested, would be got through by about the end of next month or by the beginning of March. When that came to pass, they were informed that they would have a mine able to produce something like 40 lbs. of gold per month, which would give them a profit of about 12,000*l.* per annum on a capital of about 38,000*l.* They had been waiting in patient anxiety for this adit to be completed, and he was very thankful to see that after a great deal of anxiety and trouble this was about to be accomplished. But Mr. White had informed them that more money was necessary, and had himself provided 500*l.* to keep the mine going. He stated that 1250*l.* was absolutely necessary, and urged the directors to let him draw upon them to that extent. It was no doubt hard on them to be called upon for money just when their hopes appeared about to be fulfilled; but they had thought it right to allow him to draw for the amount stated at five months. He (the Chairman) hoped that the shareholders who really took an interest in the mine would come forward and subscribe for a portion of the unallotted debentures, of which one-half of the 3000 created were still unsubscribed for. With this capital it was believed that they would be able to develop a very fine mine. It had been a tedious operation, but this was always the case where the capital only came in in dribs and drabs. The Chairman then moved the adoption of the report and accounts.

Mr. W. BAXTER seconded the motion, which was carried without any discussion. The retiring directors, the Chairman, Mr. Baxter, and Messrs. Waddell and Co., the auditors, were re-elected.

The meeting then closed with the usual compliments.

## HUNGARIAN COPPER COMPANY.

An ordinary general meeting of shareholders was held at the offices of the company, Copthall Buildings, on Tuesday—Mr. H. L. PHILLIPS, F.G.S. (the managing director), in the chair—to receive the accounts and balance-sheet and also the directors' report; also to consider a proposition for the transfer of the mines, colliery, buildings, plant, machinery, and other property and effects, and to pass the necessary resolutions to carry the same into effect.

The CHAIRMAN said the business of the day conveniently divided itself into two sections, the first relating to the directors' report and balance-sheet, and the second to the scheme of reconstruction which would be proposed. To the latter he would not refer further at present, as it would be the subject of a special resolution. Originally, as most of the shareholders were aware, this company took the form of a private enterprise of importance rather than a public one; but generally when a thing was looked upon as a good thing the necessary consequence was that the number of shareholders increased, and from being a comparatively private concern it became large and somewhat important. When the purchase of the property was originally made the directors took the precaution of having it inspected by an expert known to most gentlemen connected with mining—Mr. Evans, who was Her Majesty's senior Inspector of Metalliferous Mines in Wales. Mr. Evans visited the property, and furnished to the directors an exceedingly interesting report. That report had not been made public, but there were parts of it which were so interesting that he could not do better than refer to the more salient points. Mr. Evans carefully inspected the different properties possessed by the Hungarian company, and found that they had only superficially worked on the ore deposits, but he stated that, in his opinion, the most important point had not been attended to—namely, the getting down in depth below the base of the hill. He believed that the property was too extensive to be worked by one company, and that it would be more convenient to have a portion worked by another company. That was the essence of his report. After stating that Mr. Evans had made analyses of various samples of copper from the workings, and finding, to his astonishment, that a large proportion of the massive character of the copper, and a large proportion of silver, in connection with the lead deposits. Mr. Evans went on to say—"I consider these results are very satisfactory, and, on combining them with the observations made in the accessible underground workings and upon the surface, the opinion is forcibly impressed on my mind that these mining sets constitute a valuable property, which would handsomely reward the application of a due amount of capital coupled with energy and skilful management, and it may be mentioned that during recent workings Sir Carl Stoll, who for a limited period had taken charge of the property, states the copper content of the ore as high as 11 per cent, and the gold and silver therein contained." Then Mr. Evans went on to suggest that it would be better for the more efficient working of the concern to deal with the ore and convert them into regulus on the spot, thus saving the cost of carriage; and then Mr. Evans concluded—"This company is, in many respects, an exceedingly interesting one, and seeing that in spite of the good results from the upper levels nothing has been done below the base of the hill, except to sink the small shaft stated to be in rich ore and in a large lode, great results may be expected upon further development in depth, and as evidence of the massive character of the lode I may mention that in one place I stepped it, and found it to be in 45 ft. in width. The association of gold with the copper ore is, of course, an element of very considerable value, seeing that it ranges from ½ to nearly 1 oz. of gold per ton of ore (the latter being above the average of the well-known St. John del Rey Gold Mines), and brings up the actual market value of the ore very considerably, as will be seen by reference to Sir Carl Stoll's statement already referred to."

He might mention that Sir Carl Stoll, Mining Councillor to the Government, had always entertained a high opinion with respect to this mine, and says—"The total estimated value has been 526,000 florins, and this is an idea of the value of the mines the opinions of the many noted and reliable mining men who have visited the property should not be under-estimated. A. Schmidt, Imperial Royal Commissioner, sent by the Government to inspect these mines, prognosticated the most brilliant results. Professor Dr. Posepny, the celebrated geologist, states that not only are the ores of great value, but that it is evident that as depth is gained the ore increases in value, and that it is impossible to pre-estimate the enormous wealth therein contained." The directors had written to Mr. Evans to be present at the meeting to-day, but he could not do so owing to prior pressing engagements, but he had reiterated his belief that the company possessed very valuable property, and all depended upon the manner in which the property was developed and the affairs conducted. Pending the election of a permanent manager, the directors had made a tentative arrangement, and it was conceded by the large proprietors in Hungary that the directors could not have selected a better man than Mr. Varga, who came with exceedingly good recommendations. The directors were anxious to have a report up to Dec. 31, which was the reason the present meeting was held before. Before that report, which had been received, stated that everything was in proper order, and that copper ore was being raised and smelted, and an arrangement for the extraction of the gold completed. He (the Chairman) then read Mr. Varga's lengthy report dated Dec. 31, which was to the effect that systematic mining only commenced in May last, and that his first step was to get a thorough knowledge of the property, make the necessary working plans, and construct the different furnaces. It stated that 150 metres of ground had been driven and timbered, and that 71,000 meters-centers of copper ore (7100 English tons) ranging from 1 to 20 per cent. had been laid open (the copper containing gold and silver). That furnaces for roasting, smelting, and cupelling the precious metals had been built, the various establishments put into condition, and that as late as within the last few days two new veins of ore had been struck, the croppings of which showed rich contents in silver. Respecting the importance of the colliery which had been purchased so well, he stated that two years requirements of the works would alone pay the cost of purchase, and as it contained 600,000 tons of coal the needs of the mines were secured for all time to come. An interesting report was concluded by Mr. Varga stating that regular sales of metals would commence in March. This report was supported by one from Dr. Remenyi, who stated that he had secured a good market for the copper, and that the gold and silver would go into the Mint and be exchanged for coin, which would contribute to the profits of the enterprise. As regarded the purchase of the colliery, the purchase stood in the balance-sheet at 947,10*l.*, which he thought the shareholders would consider a not large sum to pay for 600,000 tons of coal and two acres of land at the mouth of the colliery. (Cheers.) The directors intended working the colliery in connection with the mine; but, if they chose to sell the colliery, they could make a substantial profit. It was the more incumbent on the directors to purchase that colliery, inasmuch as an association of financiers was buying up the collieries with the view of creating a monopoly of coal, but their agent in Buda-Pesth, Dr. Remenyi, got sent of this, and bought this colliery at a nominal price. (Cheers.) In conclusion, the Chairman moved the adoption of the report.—Mr. FRANCIS F. POWELL seconded the motion.

The CHAIRMAN said that Mr. Brill, who represented the Hungarian shareholders, was present, and he believed that Mr. Brill was well satisfied with all that had been done, and also with the selection of Mr. Varga.

Mr. BRILL said that all the Chairman had stated he could confirm and endorse from personal observation and experience which he had had in the immediate neighbourhood of the mine, and also from personal experience of the mine. He should like to say that he had great hope and trust in the mine. It was sold and allowed to pass into the hands of the present company, in order that it might be properly worked and developed. But he need not go into the history of the mine, as the directors knew it very well. The mine itself was splendid, and he believed it was in a good way of realising the hopes which had been placed in it. (Cheers.)

The CHAIRMAN: I may mention that both Mr. Varga and Sir Carl Stoll are excellent men in the opinion of the shareholders over there.

Mr. BRILL: You could not have selected better men. Both are excellent men. Sir Carl Stoll is a man of high position, besides being an able miner himself. You could not place management in better hands. (Cheers.)

The CHAIRMAN: To have a good manager is sometimes the difference between a great success and a great failure in connection with mining industry. We were at least six months before we selected Mr. Varga. We made a long examination with respect to his antecedents and ability, and as he has to be miner, chemist, and metallurgist, we required a gentleman of considerable acquirements. In that country, scientific knowledge is the result of regular education. I may mention that Mr. Varga's remuneration is, to some extent, contingent upon our prosperity. He is content to take the very modest sum of 100 florins a month, and 1½ per cent on the net profits, and he did not enter this management until he had inspected the mine. (Hear, hear.)—The resolution was then put and carried.—The CHAIRMAN said that possibly some gentlemen might wonder why they were not quickly going into liquidation, but probably the explanation he was about to give would prove satisfactory.

When the property was purchased the directors were unaware of the magnitude of it, but before they had progressed very far with its development it became evident to them that the working capital would in all probability prove too small to adequately open out the various mines. Seeing that the vendors being paid almost entirely in shares were the parties chiefly interested in this, the directors, therefore, applied to them to make a concession of shares, in order that this additional capital might be found without increasing the nominal capital of the company, and he (the Chairman) was pleased to inform the shareholders that the vendors had met them exceedingly well in this matter, and had agreed to a surrender of 20,000 shares in order that the additional capital might thus be raised, and the properties be thus materially benefited. The practical result would be that the balance of shares held by them would be of far greater value. It was necessary to carry this into effect in Hungary as well as in England, and Mr. Francis F. Powell and Mr. Kerly went over there and got the consent of the Hungarian shareholders. Practically, it would be necessary to pass certain resolutions, one of which was to formally go into liquidation as a sort of intermediate step before the new company was formed. But it might also be necessary to take some further powers, having in view the magnitude of the company in future. It was not at first contemplated going to any considerable expense in smelting operations, but where the circumstances would admit of it it was better to conduct them on the spot when the mines were large enough. Mr. Evans suggested that the ore should be converted into regulus, and Mr. Varga stated that he could extract the gold and silver separately, which he could exchange at the Mint for coin. Therefore they must put up furnaces, and it might be that the directors might ask for the issue of more shares to accomplish that. But they had 6500*l.* of cash balance at the bankers, and it might be that they could dispense with further capital; at any rate, in the new company they would have a margin of capital to enable them to do so if required for any good or useful purpose. In a very short time they would have their different products in the market, and he hoped shortly they would be working at a profit, and therefore the 6500*l.* would be a substantial sum when profit making. In conclusion, the Chairman moved three formal resolutions, to the effect that the property, plant, and assets be transferred to a new company, that the present company be wound up voluntarily, and Mr. C. O. Rogers be appointed liquidator.

The resolutions were seconded, and carried unanimously.

The CHAIRMAN: In the new company you will have 20,000*l.* of new capital, if it should be found necessary without increasing the capital account.

A SHAREHOLDER asked whether the directors would issue the 20,000*l.*—The CHAIRMAN said the directors had no present intention of issuing them, but whenever they were issued they would be offered to the present proprietors. Probably it might be desirable to issue them, and call up, say, 1*l.* per share, on the understanding that the other payments would extend over very long periods.

Mr. POWELL also said it might be advisable to issue them, and thus enable the shareholders to obtain the shares for a small present payment, and in that way the shareholders would keep the matter in their own hands.

Some further discussion on the subject ensued, but no definite conclusion was arrived at, the general feeling being that they might well leave the matter in the hands of the board.

A vote of thanks to the Chairman and directors closed the proceedings.

WEST CARADON MINING COMPANY.

The four-monthly meeting of shareholders was held at the offices of the company, Gracechurch Buildings, on Wednesday.

Mr. ORLANDO WEBB in the chair.

Mr. JOHN WATSON (the secretary) read the notice convening the meeting, and the minutes of the preceding meeting, which were confirmed. The balance-sheet was also read. It showed that the copper ore sold in the past four months—69 tons 4 cwt.—realised 238*l.* The balance in hand was 28*l.* 16*l.* 9*l.*, and the balance of assets over liabilities (including the calls in arrear, 204*l.* 9*l.*, and the estimated yield of the sale of ore on the 19th inst., 358*l.*), 347*l.* 19*l.* 3*l.*

The agent's report was as follows:—

Jan. 15.—In handing you my report for the general meeting, I wish to state that recent discoveries in unexplored ground have strengthened my convictions as to the great probability of our finding ore in paying quantities. Two stops in the 38, on Vivian's lode, will yield in the aggregate 3 tons of copper ore per fathom. The midway level between this and the 50, driving west of Hallett's cross-course, will yield 2½ tons of copper ore per fathom. A stoep in the back of this level will yield fully 2 tons of ore per fathom, and I believe as much ore will be found both above and below this point, where the ground is properly opened up. The main lode in the back of this level will yield fully 1 ton of ore per fathom; we have, however, suspended the workings at this level for the present, not as yet being in a position to draw away the ore, and we have placed the men to work at other points. The lode in the 38 fm. level, driving west of main cross-course, on Gilpin's, seems to be improving in size and character as we get away from the influence of Kellow's lode, which very much split up and disordered it. In my last report for the general meeting I remarked that we had effected a communication between the winze we sunk in the adit level in this lode and the rise in the back of the 17, giving us good ventilation, and that we had resumed the driving of this on the adit level west of main cross-course; and being favourably impressed with the indications presenting themselves, I stated that the opening up of that ground would be watched with much interest. Since that date we have reached one of the shoots of ore, from which we sampled on the 9th inst. a small parcel of about 15 tons of good ore, and the lode still looking well, being worth in the end 2 tons and in the stoep in the back 2½ tons; and if those lodes continue to yield ore as at present the mine will soon become self-supporting. In conclusion, I beg to say it is about one year and ten months since we commenced operations by getting two shafts ready about 70 or 80 fms. from surface, cleared and secured from levels, put up shaft tackle, prepared smiths and carpenter's shops, put up a new casing-house for the men, made new floors, put up sheds, erected a powerful crusher, also a new 45-horse power winding engine, with every other requisite for carrying on the mine; in addition to all this, we have broken over 1200*l.* worth of copper ore, and I have no hesitation in saying that the mine, on the whole, has not looked so well since we commenced operations as it does at present.—N. RICHARDS.

The CHAIRMAN considered that the report was of a very satisfactory character.

Mr. C. B. PARRY asked whether there was a deeper level under where they were working on Gilpin's lode?—Capt. RICHARDS said there was. The 38 was 10 fms. behind, and that was 50 fms. from the boundary.

Mr. PARRY thought it was very important to push on the work at this point.

Capt. RICHARDS agreed with this remark, but said that his great object had been to get ore from other points to pay for the work, which was of a prospective character. He was inclined to think they would get a good supply of ore here earlier than from anywhere else.

The SECRETARY, in reply to Mr. Hodgkinson, stated that the value of the points in operation was about 13 tons of ore per fathom.

Capt. RICHARDS added that Vivian's lode was hard, and had taken up a good deal of time in driving through, but Gilpin's lode was fairly easy. They had ready for sale on the following day (Thursday) 83 tons of ore, and also from 12 to 15 tons of ore broken, which had been taken from Gilpin's lode. The lode contained a good deal of black ore, as would be seen from the specimens which he had brought up. The lode was about 2 ft. wide, and it produced richer ore than has been obtained in any other part of the mine. The existence of black ore mixed with the yellow made it very difficult to treat. They had about 45 fms. run on the lode before reaching the boundary; but up and down they had hundreds of fathoms, for they had 35 fms. to surface, and at the lower levels they would have a very large extent of ground. The lode was likely to continue as good as it was at present, and would probably improve, as in the adjoining mine—Craddock Moor—the same lode held good from the surface to the 74 fm. level. If the lode continued as good as it was at present it alone would pay the costs of the mine after the next four months. If the other points kept as good as at present, they would, of course, pay them a good deal.

On the motion of the CHAIRMAN, seconded by Mr. RISLEY, the report and accounts were received and passed.

Capt. RICHARDS, in reply to Mr. FRENCH, expressed the hope that he would be able to increase the sales of copper ore between this and the next meeting.

On the motion of Mr. RISLEY, seconded by Mr. FRENCH, a call of 6*l.* per share was made, with the usual discount of 5 per cent. on amounts paid on or before the 1st proximo.

Some discussion ensued with regard to the calls in arrear, and it was decided that a special meeting should be convened to consider the forfeiture of shares as in arrear.—The meeting closed with the usual compliments.

NEW WEST CARADON MINING COMPANY.

The four-monthly meeting of shareholders was held at the offices of the company, Gracechurch Buildings, on Wednesday.

Mr. ORLANDO WEBB in the chair.

Mr. JOHN WATSON (the secretary) read the notice convening the meeting, and the minutes of the preceding meeting, which were confirmed. The accounts showed that 59 tons 4 cwt. of copper ore had been sold in the four months, realising 189*l.* 9*l.* 8*l.* The balance of liabilities over assets amounted to 93*l.* 14*l.* 9*l.*, the excess of the expenditure over the receipts in the four months having been 100*l.* 18*l.* 10*l.*

The following report from Capt. N. Richards was also read:—

Jan. 15.—In handing you my report on this mine I beg to say it would be superfluous at this time for me to go fully into what has so recently been referred to and explained by inspections as well as myself, such as stating length and breadth of section with the number of lodes passing through same. I may say, however, that in driving the 38 cross-cut, south of Hallett's shaft, we have intersected several lodes or branches of a very promising character, two of which we have opened out on a few feet, both producing copper ore, one of which will yield 1 ton of good ore per fathom, and I have no doubt when those and other branches are driven into more settled ground that much more ore will be found, as the ground appears to be highly mineralised. Our principal object in the past has been to force on the cross-cut to reach the lodes still before us, and which produced large quantities of rich ore in the adjoining mine—West Caradon; but we now intend as opportunity offers to drive on some, at least, of those branches, for in so doing we shall not only be proving them, but in all probability discovering some ore to assist in the further development of the mine. The 42, east of Hallett's cross-course, is now being driven through a beautiful channel of ground; present price for driving, 5*l.* per fathom, the lode in which has a very promising appearance, producing occasional stones of ore, and we are almost daily expecting to get an improvement here. In this level west of cross-course the driving for some weeks past has been by the side of the lode, which has now been taken down, and is much improved in size and appearance, and will now yield about 1 ton of ore per fathom. Two stops in the back of this level will yield respectively 1½ and 2 tons of ore per fathom. Since the last general meeting we have sold nearly 60 tons of fair quality copper ore, and we are now busily engaged preparing another parcel for the market. In concluding these remarks I may say that, in addition to the points above referred to, there are a number of others—in fact, comparatively speaking, but little has been done to prove this ground.—N. RICHARDS.

The CHAIRMAN moved the adoption of the report and accounts, and the motion was carried unanimously.



Capt. RICHARDS, in reply to a question, said he considered the prospects very favourable, especially in the points referred to in his report.

A call of 1s. per share was made, and the meeting closed with the usual compliment.

#### PEN-YR-ORSEDD LEAD MINING COMPANY.

The third ordinary general meeting of this company was held at the offices, Great St. Helen's, on Monday.

Mr. E. J. BARTLETT, F.R.G.S., presiding.

The SECRETARY (Mr. Joseph Wood) read the notice convening the meeting, and also the minutes of the last meeting, held on Dec. 12.

The CHAIRMAN: Gentlemen, in moving the adoption of the report I do not think it will be necessary for me to detain you long, for I entered so fully at the last meeting into the position of the company, not only financially but also in point of the actual development of the property, which have, as you may readily suppose, not materially altered in the short interval which has elapsed. Whilst on the subject of the meeting of December 12, I must thank many of the shareholders who were unable to be present on that occasion for the kind remarks they have made by letter—remarks drawn from them by what I may venture to call the very plain and straightforward statement which it was my pleasure to make, setting forth exactly what were our prospects, and also giving an idea as to what we should require in the way of further capital, for which power will be taken, if thought desirable, at the special general meeting convened.

The balance-sheet has been in your hands for seven days, and so far we have not had any comment upon it. Any questions, however, that you may deem advisable to put to me I shall be glad to answer. You will notice that the money that has been subscribed has been zealously devoted to the development of the mine, while we in London and those generally connected with the management have been credited with but a very small amount. We believe in the future of this concern, and entertain the hope that ere long we shall receive our reward at the hands of the shareholders. Indeed, in the items of "sundry creditors" examination would show that a considerable portion of the directors' fees has not been paid, whilst, personally, not only am I in this position, but I have put my hand in my pocket to the amount of 806l. 15s. 4d. to finance the company, because we did not wish to press heavily upon the one or two large shareholders who are indebted to us for calls. Plainly speaking, we find ourselves in debt to the amount of 264l. 7s., without any funds with which to carry on the company. After going carefully through the "underground map," if I may so term it, at our recent meeting, I subsequently found that I had omitted one important operation that is now in progress—the driving out at the 60. You have all heard of the enormous bodies of lead ore that have been found in what is termed the flat formation in connection with, or adjacent to, the North Hill property, and as the 60 is not at all interfered with by water, we thought at a small expenditure it would be advisable to keep a few men driving the 60 with the object of proving this flat formation and ascertaining whether it is valuable for lead or not. Very fair progress has been made, and we have been passing through highly mineralised ground. Up to the present time no discovery of lead has been made, but still, at the advice of our manager, Mr. Prince, this operation has been proceeded with. I may tell you that in Mr. Prince we have the greatest confidence. To quote his own words he says:—"I have every expectation of making an important discovery here." I alluded in my former speech to the fact that the Tunnel Company was making very rapid progress in driving towards our property, and if my memory serves me well, I especially drew attention to a matter of great importance in reference thereto—namely, that the tunnel was coming directly through the heart of the Pen-yr-Osredd property; in fact, almost through our shaft. I also told you that it might only be a question of a few weeks before Pen-yr-Osredd was drained to the 200 yard level. Now I am glad to say that in the interim the tunnelling operations have tapped two bodies of water, and although we cannot yet say our property is drained, it is evident that the last burst of water from their forebore had some effect upon the water that is now in our mine. You are aware that we are passing through a mild but still a very wet winter, so no doubt we should have had the water rise much more considerably in our shaft if it had not been for the operations of the Tunnel Company. Hence I am strongly of opinion (and so are those who have opportunities of knowing these matters better than I do perhaps), that we shall not have to proceed far in this present year before we inform you that we can prosecute the driving of our cross-cut at the 150, and are able to continue the sinking of the shaft below the 150; and we have ample winding power, too, I trust not only to bring up the usual debris, but also large quantities of rich lead ore. We have, as you are no doubt aware, fixed up a splendid winding-engine, which I believe will soon be drawing up this lead ore to our satisfaction and to our profit. I will not go into the question of the vendors' offer to assist the company, or into the way in which the shares they have placed at our disposal should be dealt with. I prefer these matters to come before the special meeting which will follow this one. The Chairman concluded by moving the adoption of the accounts, which were unanimously passed.

On the motion of Mr. EASTES, seconded by Mr. GAMBLE, the retiring directors, Messrs. Lloyd and Kennedy, were re-elected, and Mr. Prince was also re-elected.

The auditor, Mr. J. B. Eames, was also re-elected.

The meeting was then made extraordinary, to submit to the shareholders the following special resolutions:—

1.—That the offer made by Mr. George Hughes on behalf of the vendors, to surrender 1500 fully paid-up shares, and the full benefit thereof to this company, be and is hereby accepted.

2.—That the capital of this company be increased by the creation of 3000 additional shares of 1l. each.

3.—That 1500 of such shares, newly created, together with the 1500 shares surrendered by the vendors, be offered *pro rata* to the present shareholders at par, 1l. each.

4.—That the remaining 1500 shares newly created be held in reserve for the requirements of the undertaking, and issued at the discretion of the directors.

The CHAIRMAN: The resolutions fully express what is intended, and that is, perhaps, the reason why they commend themselves to your consideration. I again must refer to what took place at the meeting on Dec. 12, because one or two points may occur to your minds with regard to placing the shares. First, shareholders may be disposed to say that their interest is large enough in the concern, and not knowing so much about the property as we do, and therefore, at the present disengagement, they may be inclined to stand back—or, rather, be indisposed to aid the company further, even though it be for their own prospective benefit. But if there is one thing more than another which should cause them to adopt a different course, and give this scheme their hearty support, it is the way in which the property has been managed, and the care that has been taken to conduct it with a rigid regard to economy and an early entrance into the dividend list. Secondly, if they do not come forward and apply for these shares it is not likely that we can expect the outside public to do so. Thirdly, further funds must be secured to continue operations. The secretary informs me, however, that already shareholders have notified their intention to accept their proportions of the shares, and I know that some of my friends intend doing the same. It is most desirable we should get out of debt, and have funds in hand ready to carry on extensive operations as soon as the Tunnel Company relieves us of the water. I am not going, therefore, to ask you to wait till the shareholders assemble at the confirmatory meeting, but I am anxious on that occasion to lay before them a statement of the measure of support we have up to that time received. The amount needed is very small, and therefore, we will ask the shareholders to at once say whether they will take up their proportions by the date fixed upon for the confirmatory meeting. I have not personally altered my opinions in the least as to the prospects of this undertaking. Surrounded as we are by very rich properties, and under such exceptionally favourable circumstances, with regard to the Tunnel Company, possessing also ample plant for the development of the mine, I think it will only be a question of a very short time before the shareholders will see in the fortnightly reports the realisation of the sanguine expectations formed of this property. I long to see it, (hear, hear.) I entertain the same high opinion of it now as I ever did, and have no doubt that my utmost expectations will be fully realised. (Hear, hear.) I, therefore, beg to move the resolutions embodied in the notice.

Dr. KENNEDY seconded the motion, which was unanimously agreed to.

The confirmatory meeting was fixed for Tuesday, Jan. 31, at three o'clock, at the offices of the company.

The proceedings closed with a vote of thanks to the Chairman.

**MOUNT CARBIS.**—At the meeting on Monday (Capt. W. Tregay in the chair) the accounts for 18 months, to the end of December, showed that 3414l. 6s. had been expended in labour cost and merchants' bills. This was nearly covered by the 10s. call made in June, 1880, but there remained a debit balance of 335l. 5s. 5d. A call of 5s. per share was made. The Chairman announced that he had insured the company against Employers' Liability risks to the end of 1882. The necessary machinery and plant have now been obtained. No ore has been sold, but the agents—Capt. W. Tregay and George Johns—state that the geological position is as good as can be selected for mineral production, and in conclusion, they say the lodes are among the most important and productive in the country, and the mine is in new and unworked ground. After many years' practical experience of this and many other mining districts, we believe it to be a just and moderate conclusion that we have only fairly to carry out this mine to ensure results as brilliant and as lasting as any of those productive and profitable mines in this prolific neighbourhood.

**SILVER HILL MINE.**—No. 4 lode in this property has been intersected this week, showing rich for copper. An assay made by Mr. Jenkins, of Callington, gives the result as 20½ per cent. of copper and 5 oz. 10 dwts. 16 grs. of silver to the ton of ore. From this assay Capt. Rickard, the agent at the mine, estimates the ore to be worth 15l. per ton. At the sale of copper ores at Redruth on the 5th inst. the highest price realised was 10l. 9s. 6d. per ton, and the average price for the 961 tons sold was 3l. 5s. per ton. Vigorous operations will now be commenced east and west on the course of the lode. During the time which this company has been at work the tunnel which is being driven north into Kit Hill towards the junction of the granite and the killas has been pushed on at the rate of 25 fms. a month. It has now reached the first of a series of parallel lodes, which form, perhaps, the richest mineral belt in the country. The next lode to be cut is the Wheel Brothers silver lode, from which immense profits have been made. A little farther north is the Silver Valley lode, and then come the Good Luck tin lode, and the Prince of Wales copper lode. The experiment of tunnelling through Kit Hill has been for many years favourably spoken of in mining circles, and it is more than probable that the Silver Hill

Company, which intends to drive as far into the hill as its rights permit will be amply rewarded for having given this much favoured scheme a trial.

#### FOREIGN MINES.

**ST. JOHN DEL REY MINING COMPANY (Limited).**—Advices received Jan. 18, 1882, ex Douro, dated Morro Velho, Dec. 18, 1881:—

GENERAL OPERATIONS.—GOLD PRODUCE FOR THE MONTH OF NOVEMBER.—The gold extracted during the above-named month amounts to 28,692-2 oits., equal to 3307-7430 ozs. troy. It has been derived as follows:—

	Oits.	Tons.	Oits. per ton.
General mineral	15,962-5	from 3721	= 4-558
ditto Prala	2,665-3	" 630	= 4-230
Mineral free from killas	7,974-2	" 1100	= 7-249

Re-treatment	27,602-0	" 5451	= 5-063
	1,090-2	" "	= 0-200

Total	28,692-2	" 5451	= 5-263
Add recovered from retort plates	10-0	" "	"

The slight increase in the return of produce is due to a greater quantity of mineral having been treated during the month; the average yield of which, however, compared with that for October, shows a slight falling off consequent on a larger admixture of killas.

**COST AND PROFIT.**  
Produce for November 28,702-2 oits.  
Less loss in melting ... 154-1

Cost	28,548-1 oits., at 7s. 9d. per oit.	£11,062 7 9
		7,135 3 4

Profit	£ 3,927 4 5
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The cost for the month shows a considerable decrease both in labour and in charges for materials, &c.

**MINES.**—Mineral raised from the mine ... 5855 tons  
Mineral quarried per borer per diem ... 2-26 "

Average attendance of borers daily ... 99-23  
Average attendance of natives daily ... 284-00

**MEASUREMENTS FOR THE MONTH OF NOVEMBER:—**

SINKING SUMP VERTICALLY ... 5 ft. 6 in.  
ADDITIONAL SLOPE WEST, OR NO. 1.—Total width ... 34 0

DRIVING.—SECTION 255—Extended ... 7 3  
EASTERN LEVEL UNDER ROOF, SECTION 217—Extended ... 10 6

CROSS-CUT NORTH—SECTION 234 "A"—Extended ... 12 7  
EASTERN SECTIONS.—Vigorous operations were conducted throughout the month without disclosing anything of importance either at this point or in the sump, where the rate of sinking has been fairly maintained.

299 D.—This slope has been considerably advanced and a fair quantity of mineral obtained therefrom. The lode is without any material change.

STOP 297.—Considerable further progress has been made in removing the killas slated in last report as standing on the north side of the excavation, and stopping operations on the lode thus uncovered have been commenced. The southern part of this slope has now reached the western side.

DRIVING SECTION 255.—As already reported, was extended during the month 7 ft. 3 in.

EASTERN LEVEL UNDER ROOF 217.—This level which is 6 ft. 6 in. in width, 4 ft. 6 in. in height, is pure mineral, was extended during the month 10 ft. 6 in. The lode presents a more compact appearance.

SECTION 234 "A"—After penetrating the killas the lode was again met with, and will be followed on the course of the slide. The mineral appears to be equal in quality to that discovered in the end of driving section 255.

REDUCTION WORKS.—The erection of the new Powells is making satisfactory progress, and will probably be completed by the end of February.

CUIABA COST.—Expenditure on capital account ... £ 668 3 6  
Surface buildings and other works ... 850 16 2

**MINE DEVELOPMENT.**—New machinery and deep adit ... £1518 19 8

Deep adit distance driven during the month ... 17 fms. 4 ft. 2 in.

Hard rock has, however, since been met with which makes it impossible that the same distance can be driven next month. This is exceedingly satisfactory duty; Vax's sink was deepened during the month 22 ft. The work of erecting the reduction plant is being pushed as rapidly as possible. It is estimated that if nothing unforeseen occurs the 20 heads may be got to work in three months.

MORRO VELHO—GOLD EXTRACTED FOR THE MONTH OF NOVEMBER.—The produce for the first division of December, a period of twelve days, amounts to 9567-3 oits., equal to 1149-1249 ozs. troy. It has been derived as follows:—

	Oits.	Tons.	Oits. per ton.
General mineral	5,559-3	from 1456	= 3-776
ditto Prala	908-8	" 220	= 4-121
Mineral free from killas	3,125-0	" 458	= 6-823

Re-treatment	9,591-1	" 2134	= 4-494
	376-7	" "	= 0-178

Total	9,967-8	" 2134	= 4-670
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**MINES.**—Return of duty for 14 working days:—  
Mineral raised from the mine ... 3386 tons  
Mineral quarried per borer per diem ... 2-52 "

Average attendance of borers daily ... 95-78  
Average attendance of natives daily ... 270-92

The gold troop conveying 12 boxes of bar gold, weighing altogether 58,025-1 oits., equal to 6963-2504 ozs. troy, was dispatched for Rio and England on the 17th inst.—N.B. The gold has duly arrived.

Telegrams received:—On Dec. 23, dated Rio, 22nd—"Produce 12 days (first division of Dec.), 10,000 oits.; yield, 4-8 oits. per ton; profit for the month of November, 2900l."

On Dec. 28, dated Rio 27th—"Produce seven days (second division December) 6000 oits.; yield, 4-3 oits. per ton."

On Jan. 11—"Produce for the month of December, 24,500 oits.; yield, 4-3 oits. per ton. Produce small from temporary admixture of quartz and killas."

**DON PEDRO.**—Mine captain's report, dated Dec. 19: Drainage: Water at present 18 ft. below cistern of jack head. Bucket changed once, and machinery well looked after. Engine idle 10 hours for repairs of door of cylinder.—New Machinery: Some timber delivered for the work, and engaging carpenters to square and prepare same, those on hand at present not being adequate to requirements. This will be pushed on smartly.—Adit Level: Five sets changed and four legs.—Bryant's Viaduct in hand, and will be pushed forward vigorously.—Explorations: Branches very bumpy. Last week one was poor in quality, but improved towards the latter part of the week, and is now much better.—Reduction: The level under 1 yard completed, also tramroad from the same to stamps shoot, and tramroad from wash-house turn-table; that from stamps to inclined and inclined road will also have to be done, timber being thoroughly rotten.—Saw Mill fully occupied sawing timber for the various roads.

**RICHMOND CONSOLIDATED.**—Telegram from the mine at Eureka, Nevada Week's run, \$32,000, from 876 tons of ore. Refinery, \$22,000.

N. Wescott, Dec. 28: Since my last weekly report we have extended the main north drift from the bottom of the shaft. In the 1500 level, a distance of 30 ft. in limestone, which is drifting harder, free from water, and does not require timbering. The ore found above the 200 level has not developed into anything better than stated in my last report (low grade ore), but we have hopes that we shall get an ore body in that locality. The 200 west drift has been extended 11 ft., the 300 north drift 7 ft., the 400 north drift 10 ft., the 600 north from west drift 18 ft., the 800 north-west from the 14th chute 13 ft., the 700 north from under the 13th chute 3 ft., the 800 north drift from quartzite 8 ft., and the 900 north from the west drift 6 ft., all in limestone. The 200 rise, south from south 2504 ozs. troy, was completed, and made but slow progress for the quartzite drift, 12 ft. in quartzite; the 600 rise, from the east drift, under the 14th chute, 6 ft. in low grade ore; the 600 rise, from near the north fissure, 7 ft. in limestone; and the 700 winze, from the south-west drift, 6 ft. in limestone. The mine is producing ore equal to the reduction of the furnaces.

**DEVALA MOYAR GOLD—RHODES REEF GOLD.**—Extract from the report of chief mining manager: Dec. 24: For the past week at your different mines work has proceeded satisfactorily without any change particularly to note. At Rhodes Mill we have been detained, and made but slow progress for two reasons: the want of timber which a contractor had failed to supply in contract time and through some feast or fast I have only 12 carpenters out of 40. I am happy to inform you that Mr. Pool, your mechanical engineer, returned to his work on Thursday last week. I shall from this time forth have time to look more closely after your numerous works and give you a clearer report as to the progress we are making, and the quality of the stone in the different reefs we are opening.—Rhodes Mill: The stamping gear, engine, &c., are all completed. The buidies are all made and ready to put down; so are the tables. We should have had everything ready to start now but for the want of wood for passes and launders and the absence of our carpenters.—Rhodes Reef: For several weeks I have only had about 10 men employed, as I have no room to pile more quartz and break the quartz there as fast as the mill can crush. The tramway nearly completed communicating Rhodes' reef with the stonebreaker pass. It will be a fortnight yet before we get fairly started.—Harewood Reef: The lower tunnel is in a distance 115 ft., driving good. The ground is full of cracks; so we have been obliged to timber. The whole distance is well and securely timbered; 10 coolies employed.—Salomon's Reef: At this reef work is progressing satisfactorily; main tunnel is in a distance 134 ft., strong reef and good footwall. The rise up is 90 ft., carrying good strong reefs. The upper tunnel is in 13 ft., and I expect daily to break into the old workings at this upper mine; 44 coolies employed at this mine only. As we are only driving adits and shafts and raise ups, &c., we cannot employ more to advantage now, but in a few days when the raise-up breaks through into the old workings we shall have a very extensive face of quartz in sight, and can put on 200 men if we want.

Reef over Shearade: This is a very large vein of quartz, 30 ft. thick, I should say, and crops out over for a long distance on the surface. For the last fortnight we have had 20 coolies putting two large cuttings across the reef; the reef is solid, and will require blasting. We intend to blast through it during the coming week, when I can give you an idea of the quality of the stone.—Kintail Reef: At Kintail we have 75 coolies, one Eurasian, and one European employed. I am putting five open cuttings to test the extent of the reef, also sinking two shafts for the same purpose. This reef runs very flat, and I have the balance of

the men stripping the soil off the top of the reef, where there is no great thickness of earth or stone. Not sufficient to timber up and raising quartz I can see a little free gold all the time in all the cuts and shafts equally as good as the portions of the reef Mr. R. Brown Smith has assayed, and which would yield well. We have just completed a good cut road from the distant road to the Kintail reef, so that at any time we can crush samples from Kintail or any other reefs in the locality, thus getting the *bona fide* practical results. I like the appearance of the lode in the prospecting cuts better than in the cuts put into the reef before I came here.

**Strathmore Reef:** As I explained in my last report this reef is of great width, and I have not yet got our cuts across the lode, so I cannot give the width, but I can get good specimens of gold—good coarse gold in the stone—every day when I go there. I think highly of the place. From the general appearance of the place it seems to me that the parties who worked the reef in some past time worked thoroughly about 30 ft. of the middle of the reef. I can see at this width has been taken out and been filled with broken quartz and earth, and from the quantity of good gold I can get in the quartz on each side of the worked ground—I am convinced it is the centre of the reef—the portion taken out must have been very good. To what depth this reef has been worked I cannot tell, but to the best of my judgment certainly not below the water level, which would be about 150 ft. It may not be worked to this depth. This could only be ascertained by sinking run for north Ditch, then from where the natives with their appliances had to stop working will pay the company expenses. From all my experience I cannot think a reef of this width can run out at depth, or in any reasonable distance in length, and from my prospecting so far I think the whole hill can be made to pay with a good mill erected on the spot, for which there is every facility. I do not say this as a settled fact, as I have not had sufficient time to prospect so far to be certain, but it is my opinion now.

**SILVER PEAK.**—Wm. Macfarlane, Animas Forks, Dec. 27: I am pleased to report that up to the present time all is going well at the mine. Last week completed the relaying of the track through the tunnel, also a cross-road into the cross-cut, and put on the new cars, all of which are working well. So far we have had little trouble with the frost, although the glass has been 10° below zero. Only one air pipe burst; the stoppage was only half a day. The blind lead or spur I spoke about in my last report we have passed through; it showed considerable mineral, good quartz, much gangue matter, and large veins of crystals. The cross-cut continues to improve; when it is in a few feet further I propose to drive off and prove the Hurens lode. No. 3 lode. This is a fine promising lode nearly 90 ft. wide. I am of opinion when this lode is reached the cross-cut will give it a rich supply of ore, as the iron seen in the lode when taken out at the time it was struck assayed very rich in gold and silver, with considerable galena. I am working two drills in the heading, and also one pair of men in the cross-cut.

**LAST CHANCE.**—The directors have received the following telegram from their agent at Salt Lake:—"We have during last fortnight run 37 ft. in Tunnel No. 3 and 4 ft. in the raise.—Opulent Mine: Ore mixed in the vein. Prospects favourable; doing well."

**BERNHARDT.**—Progress report for the week ending Dec. 17: The 6200 ft. drift east: Total distance Dec. 17, 160 ft.; run for week ending Dec. 17, 40 ft.; total distance Dec. 14, 201 ft.; run for month Dec. 17, 129 ft. The 2000 ft. drift east (upper level southerly): Total distance Dec. 17, 58 ft.; run for week ending Dec. 24, 4 ft.; total distance Dec. 24, 62 ft.; run for month Dec. 33 ft. The 2000 ft. drift east (easterly): Run for week ending Dec. 24, 6 ft.; total distance Dec. 24, 6 ft.; run for month Dec. 6 ft. The 2000 ft. drift east (upper level cross-cut): Total distance Dec. 17, 26 ft.; run for week ending Dec. 24, 6 ft.; total distance Dec. 24, 32 ft.; run for month Dec. 32 ft. The 2000 ft. drift east (easterly): I have for the present changed from driving southward in the pugh, as mentioned last week. This driving shows quartz, and the indications are very favourable. I have only had one shift of two men at this point for the week. The cross-cut the past week has looked better than previously, and the ore seam is still making downward. The lime-rock is hard, but the quartz we find is very good, and carries considerable chloride.

**BROADWAY (GOLD).**—J. W. Plummer, Dec. 26: Broadway: The 75 ft. level has not been driven during the week, being temporarily suspended. The mine men employed elsewhere, therefore there is no change to report. The vein below the 75 has been extended 5 ft., making a total of 45 ft. on the incline. The vein is slightly pinched in the bottom, but that is not to be wondered at as the vein closes up from a size of 4 ft. to 1 ft. without any warning, and opens out again in the same erratic manner. The rise above the 25 is progressing fairly, being now 34 ft. above the level. The contact is very changeable, sometimes yielding good ore in abundance, and then becoming pinched and narrow. The slopes east and west of the rise look well, and are producing large quantities of ore per linear fathom. We raised from the mine for this week 22 tons; of this we brought 81 tons to the old mill, leaving 150 tons to be added to the reserves, which now amount to 1700 tons.—Mutual Agreement Mine: Tunnel extended for the week 5 ft., total length 194 ft. We have at length cut the ore we have been looking for so long; it is only 1 ft. wide as yet, and not very rich. It is satisfactory to know that we are close to the large body, on which we hope to sink after getting into it far enough, and we trust that with depth the grade will improve.—Old Mill: The old mill works as usual, and there is nothing special to report about it.—New Mill: The boilers are in place, and the main engine commenced to lay foundations for the boilers. The Knowles' standard pump is being ordered.

**LAST CHANCE.**—The Last Chance Consolidated Mining Company have received (Jan. 19) the following telegram from their agent at Salt Lake:—"We have during the last fortnight run 37 ft. in Tunnel No. 3, and 4 ft. in the raise.—Opulent Mine: Ore mixed in the vein; prospects favourable; everything doing well."

**GOLD HILL.**—W. H. Bulloch, Jan. 2: Bernhardt Shaft: Since my last report we have drained the water to the bottom, and are repairing the shaft as fast as possible, and also clearing and securing the 263 ft. level with all speed. At the bottom of the mine, which is 390 ft. in the south-western direction the vein is 2 ft. wide, of fair stamping ore. We shall as soon as possible put a part of men to drive this end. In the eastern end little has been done. In another month we shall commence laying open stopping ground.—Manney's Shaft: We have cleared and secured 125 ft., and driven north-east 14 ft., and another 40 ft. more driving will communicate with Bernhardt workings; the vein is 8 in. wide, fair stamping work. Reservoir veins have been discovered by a mill slide; we are getting down to see whether it has effected them. The slide at Miller's vein is now down 49 ft., and we have commenced to drive towards Miller's wharf shaft, which is 96 ft.; the vein is not so large, and it is now in hard bar of ground; this bar is not more than 8 ft. through—it has been pinned at a shallow depth. Metter wharf-shaft is secured to 60 ft., and the wharf put in good order, and is now working. At the 60 ft. level we have commenced to drive towards the sink; the vein is 10 ft. wide, good stamping ore. When the piece of ground is communicated we shall have a splendid piece of ground laid open for stopping.

**ORGANOS GOLD.**—J. G. Green, Nov. 22: Mine: During the past month very excellent work has been performed at all the points, being worked with satisfactory results.—Constancia Mine: Driving in Rogers' level, by two men, at \$18 per fathom, is being carried of large dimensions in a south-westerly direction to intersect the lode, and has been extended to date 5 fms. 5 ft. As anticipated, the rock here is much more compact than in the upper levels, and is very favourable for driving. I expect to cut the vein in a month's time, and hope to have the pleasure of reporting it rich. Beuna Ventura level, worked by two men, at \$18 per fathom, has been cleared during the month 29 ft. 6 in.; total run, 107 ft., very satisfactory progress considering the nature of the work. The sole of the whole level I have had to cut up, in order to make it the proper grade for tramway, as the old level has a rise of a foot or two per fathom in places, and is quite unfitted for a tramway. By this work we have extracted several tons of excellent quartz, some of it showing visible gold, and containing a considerable amount of galena pyrites. Esperanza level, by two men, at \$18 per fathom, has been driven and secured 28 ft., during the month, the end being at distance of 106 ft. from the mouth. I mentioned in my last advice that the vein was to the south. Since then we have intersected it. It is very irregular as to size, varying from 6 to 18 in. wide, sometimes nothing but a mere joint. This owing to the very distorted state of the casing or country rock. The whole mass appears to have been moved, as every joint shows signs of slickenside, and is very heavy and troublesome to drive in. The contractors have been engaged a part of the month in securing and renewing part of the timbering, which has given way under the great pressure caused by the heavy rains. The vein though small is very rich, as you will note from Mr. Mills' report. We have extracted several tons of mineral from this level during the month. The Encanto Mine Work has been carried on here by two men during the last three weeks in clearing a large amount of debris, overlying the back of the lode, and we shall in about three weeks time commence an adit. I have also projected a deeper level, to suit the line of our tramways, which for the first 15 fms. will be a cross-cut through the country rock. The lode here is a very large and fine one, as previously advised. The samples of quartz sent are from the surface outcrop, and will tend to show you its nature and characteristics. We have not found any specimens with visible gold, but we shall without doubt, get abundance of rich quartz from this splendid vein as the levels are advanced into the hillside. The theodolite has not yet been delivered, so that I am unable to send you plan and section. I am anxious that you should have these, so as to enable you to follow with facility what we are doing, and I will prepare same as soon as possible.—Surface preparations: Excellent progress continues at all points, and our men are working spiritedly. In view of the possibility of losing the rich quartz gossan from Constancia by running it through the long timber shoot with water, which has occurred to me, and which Mr. Welton did make a communication about Oct. 3 says should be provided against, I have decided to make a tramway in line instead of a timber shoot, and by this means run the wagons direct from the several workings to the stamps. I send herewith necessary order for the necessary wire rope and drum fittings for same.—Transport of Goods: This important work is having my best attention, and I am undertaking a special journey to Houda to engage peons from the Bogota Savannahs to carry the heavier pieces over the cerro, and to purchase cargo oxen, which, as soon as the work is completed, can be sold. Since writing you last no cargoes have been delivered at the mine for the reason that the government has decided to employ to engage more miners, carpenters, and sawyers, also carbon burners. The men about here (mostly Indians) are all but useless. You will notice by Mr. Mills' report that the Constancia lode contains a notable quantity of lead. I intend concentrating after abstracting all the free gold, and if on assay I prove rich enough will either forward it in a concentrated form to England or will devise a metallurgical treatment here. There is plenty of clay for bricks and fuel in abundance. I have had considerable experience in the erection and working of furnaces, and am confident the business would pay here. Lead is very dear in this country, and with very little delay it could be manufactured. However, this is a matter for the future decision of the directors; I merely mention it for their consideration.

F. G. Mills (assayer): I have made an examination of the gossan taken from the Esperanza level, but as the assaying plant is not in working order the estimation is necessarily a rough one, as I had not even a little mercury to work with; 10,000 grs. of the gossan after sampling were carefully washed, and I obtained 6-8 grs. of gold, equal to a yield of 22 grs. 4 dwts. 6 grs. per ton of 2240 lb. I have no doubt but this result is a little low, as there was most probably a lot of very fine gold. Besides gold the gossan contains a notable quantity of a greenish yellow mineral, which an examination proved to contain carbonate of lead. I also think it contains phosphate of lead or pyromorphite, but I cannot be sure of this, as I at present have no means of testing for phosphates. I send a box containing samples, which I hope you will receive all right.—List of Samples in Box: Tin No. 1—Two rich specimens from the Esperanza level; one rich



In the 175 west, on the south part of lode, the lode is 3 ft. wide, of a very promising character, and yields 1 ton of copper ore and 2 tons of muncie per fathom. In Denner's winze, sinking below the 160, on the south part of the lode, the lode is 4 ft. wide, and worth 2 tons of copper ore and 3 tons of muncie per fathom. In the 160 west on the south part of the lode, the lode here is composed of capel, arsenical muncie, and some good quality copper ore. There is no alteration to notice at any of the other points of operation throughout the mine.

**DEVON GREAT UNITED.**—I. Richards, Jan. 39: In Willeford's shaft, sinking below the 104, the lode is 2 ft. wide, composed of capel, peach, quartz, some good quality arsenical muncie, and a small quantity of copper ore. It



while in the bottom of the 50 west of Willeford's shaft on the Capel Tor lode has been communicated with the rise put up by the former company in the back of the 71; the lode at the point of communication being of a very promising character, and worth 1 ton of copper ore and 3 tons of muffle per fm. At the 60, west of Watson's shaft, the drive is being continued by the side of the lode. In the 50, west of Watson's shaft, on the Capel Tor lode, the lode is 2 ft. wide, of a promising character, and producing small quantities of copper and muffle ore. In the cross-cut at the 20, east of Willeford's shaft, the ground is favourable for progress and congenial for the production of mineral. **DRAKE WEST UNITED.**—Moses Barker, Jan. 19: The lode in the 20, east of the eastern part of the mine to the deep adit was made on Thursday last, and the men who have done this work are now engaged in cutting a pit at the water level at Mathew's shaft, and we hope also to complete this work by the end of this month, after which we shall push on the deep adit as fast as possible to meet the winze now sinking below the 40 fm. level between Mathew's and the engine-shaft; the lode in said winze still maintains its value, and will lay open some good tribute ground. In the deep adit driving west towards Mathew's shaft we have gone through a large cross-course, which has thrown the branches about 4 fms. to the west. We have again commenced to drive west on their course, and do not expect to meet with any more cross-courses until we reach Mathew's shaft, a distance of between 30 and 40 fms. The south branches in the 40 level driving west of engine-shaft are improving, and are laying open some good tin ground. The dressing of the tin ore is proceeding very satisfactorily, and we expect with the steadily advancing tin standard to realise a good price when we sell at about the end of the month. All necessary repairs are proceeding as fast as the nature of the work will admit.

**EAST BLUE HILLS.**—S. Bennett, Jan. 19: The lode in the adit, east end, is of a most promising kind, is 2½ ft. wide, trending throughout, and worth 2½ to 3½ tons of lead ore per fathom. In the 45, east end, it is 2 ft. wide, and worth 7½ tons per fathom. The south part of the lode in the 30, east end, is small. It appears as though the lode at this point is split in three or four parts, and is not very productive.

**EAST BOTALLACK.**—G. H. Eustice, J. Hollow, Jan. 18: The sinking of the engine-shaft is still progressing satisfactorily. The lode, which for the last fathom or two sinking has been small and poor, is again increasing in size and quality; now 18 in. wide, and containing 1½ lbs. of tin to the ton of stuff. The lode in the 35 end is also improving in size. Nothing new to report in any other part of the mine.

**EAST CRAVEN MOOR.**—David Williams, Jan. 19: The south-west cross-cut from the 75, west of shaft, is in 16 fms.; the general character of the ground here becomes more congenial for the production of lead ore as we approach the main lode. A stope in the back of the 1 vel, in a lode 3 ft. wide, and worth 20 cwt. of lead ore per fathom. The 65 west has been extended from shaft 22 fms. 3 ft.; the lode here is 3 ft. wide, composed chiefly of limonite, with occasional streaks of lead ore, and is worth 100 cwt. of lead ore per fathom. The 54, west of cross-cut, has been extended upon the main lode a distance of 48 fms.; the lode here is rather disordered at present by a cross-joint, but will I have no doubt again improve when clear of its influence. No. 1 stope in the back of the same level, in a lode 3 ft. wide, and worth 30 cwt. of lead ore per fathom. No. 2 stope behind the end, in a lode 3 ft. wide, and worth 25 cwt. of lead ore per fathom. We have five pitches midway between this and the 30 above, and the 100, and pointing the way out, and two at 90s. per ton of dressed ore. We have 30 tons of ore at the mill and ready for carting towards another parcel. Our machinery both underground and on surface are in good order, and working well.

**EAST HERODSFOOT.**—T. H. Bennett, Jan. 19: During the last four weeks ending Saturday last we have driven 3 fms. 4 ft., and again set to the men, and at 15s. per fathom less than former price. We are approaching the cross-course, and I hope in a little time to be enabled to report its intersection and with good results.

**EAST LONG RAKE.**—H. B. Vercoe, Jan. 19: There is no change whatever in the 50 west. We continue to cross-cut north in the 1st. There is not the least side of a wall or side, although it is opened on for 30 ft. in width. In the end of the cross-cut the ground is rather harder, but still composed of beautiful carbonate of copper; that there is a very valuable deposit of ore near by I have not the least doubt, and to expedite its discovery I have taken two men from the east end, together with the six before engaged in the cross-cut, and we are thus enabled to drive the 50 west and 50 north simultaneously. The 50 east improves, and shows a rib of ore about 2 in. in width, and promises further improvement as we near the junction of the lode known to exist in this direction. The stope in the roof of the 50 west are producing fair quality leadstuff, but not so good as last month. There is a much richer lode a short distance in advance of the stope, and which we shall reach in a few days. The flat produces lead as for some time past, and promises to continue to do so. Dressing progressing well. We shall sample in time for the next Holywell ticketing the second week in February.

**EAST ROMAN GRAVELS.**—Arthur Waters, Jan. 19: There is no change for the worse in the gravel in the mine since my report of the 15th inst. There are two rock-drifts at work—one in the 97 south, the other in the winze below the 109, and good duty is being done in both places. We are delivering the 40 tons of lead ore sold last week.

**EAST VAN.**—W. H. Williams, Jan. 19: The cross-cut in Glanwend Brook is driven 8 fms. 2 ft.; the last fathom of crossing has been best for lead, inasmuch as every shot fired shows some good spots.

**EAST WHEEL ROSE.**—Capt. Wm. Skevis and Capt. T. J. Dodge: North Wheel Rose: The house from the 100 in. engine is up, and the roof put on. The men are engaged in taking down the 100 in. engine, and pointing the way out, and back is being cemented on the bob-end for the reception of the foundation; late and bob of the 100 in. engine, which are now delivered on the mine. Ground is taken out for foundation of stack, and building for same commenced. Penrose: The bob of the 90 in. engine is up, and will be fixed in the stools by to-morrow evening (Saturday); when this is done the engineers will commence putting in the boilers. The loading for steam-capitan is completed, and we are now waiting for this machinery to be delivered, which is promised forthwith. Since the little winding engine has been fixed we have drawn from the adit level a very fine heap of waste for silver-lead ore and blende from Innis's lode, and we hope by the time the necessary buildings and erections of the crusher and dressing machinery is completed to have plenty of good work for them to do. As to the underground department, we are pleased to say that it continues to be in every respect equally as good as set forth in our last report.

**GAWTON.**—G. Rowe, G. Rowe, Jan. 14: The lode in the 117 east still continues to look well, and yielding 20 tons of muffle and ore per fathom. The lode in the 105 east is carried 5 ft. wide, producing 10 tons of muffle and ore per fathom. The lode in the winze sinking below the 105 is yielding 8 tons of muffle and ore per fathom. The lode in the 95 east is improving in character, with good stones of muffle and ore. All other points are without change. Our arsenic works are progressing very satisfactorily.

**GREEN HURTH.**—Jan. 12: There is very little change in the value of any of our workings this week. No. 1 drift over standard level is worth 3 tons lead ore per fathom, with every appearance of a speedy improvement. No. 2 bottom level south is without material change. No. 3 stope is worth 3 tons of ore per fathom. No. 4 stope is worth 2½ tons of ore per fathom. No. 5 stope is worth 2 tons of ore per fathom. Having reached the intermediate level between Vipond's sump and Swan shaft, there shall be hindered in working the two last-named stopes for a short time as there is an extra space to fill up. No. 6 north end of 31 promises again to improve. No. 7 stope in the roof of the bottom level is not being worked at present; it is standing worth 8 tons of ore per fathom.

**GLASGOW CANADON CONSOLS.**—Wm. Taylor, W. J. Taylor, Jan. 17: The new south lode in the 114 is improving as it is being opened up, now worth from 8½ to 10½ tons per fathom; ground of the same easy character, and in the winze coming down on this lode from the 102 we have the same easy ground, and lode improved, and about the same value. In the 102, we get it through to the level, which will open up ore ground, and give us all the ventilation required to open fully on this south lode east and west, as well as the other lodes at this level. No change of importance in any other part of the mine.

**GLASDIR.**—J. Rowe, Jan. 18: The ore dressing is progressing satisfactorily, and the price obtained from Vivian's for the last lots—67. 3s. and 67. 1s.—will, I think, be more than equalled this month. All the deadwork is finished, and every part of the mine is in capital order. Mr. Redwin is superintending the operations himself in continuous work, the purpose of testing actual cost, and weighing and valuing actual results.

**GLENROY.**—R. Rowe, Jan. 18: There is no change in the 108 driving north; the lode is still large, and containing a little blende. On Saturday an accident occurred in the breaking of the main rod from the wheel to the shaft; it is, however, again repaired, and all is in working order.

**GODDARD'S LEAD.**—R. H. Vivian, Jan. 19: Since my last report the stopping east from Middle shaft has reached where another shaft comes down from surface. Here we have also a fine lode, and have drawn some very good rocks of lead to surface, much better than could be expected for the depth. I venture to say we have a lode going down worth nearly ½ ton of lead ore per fathom at this point, which is 40 fms. east of pumping shaft. Our prospects are very good.

**GODDARD'S LEAD AND BLENDE.**—Wm. Sandoe, Jan. 15: Special Report: The brief observations I made in describing this mine after my first visit need not be repeated here, but having visited and inspected the mine again yesterday as far as practicable underground, I may say truthfully that the good impression made on my mind with regard to this property on my first visit has been much strengthened by my second visit. To describe the work done since my first visit I would observe that the lode has been wrought and laid out about 15 fms. further east than I was then able to see it, and here the lode looks quite as well as in any other part previously laid out; also the pumping shaft, which I pointed out at the bottom of the shaft, was not water in the shaft; but the pile of stuff drawn up from bottom of shaft was on the surface close by, which clearly showed that the lode had improved both in size and productiveness as depth has been attained. This is quite in accordance with my first opinion of this lode, and which I still fully adhere to. The width of the lode varies from 1½ to 5 ft. wide, and is composed of carbonate of lime, lead, blende, and sulphur; it is fairly compact, and a very kindly and promising lode. This lode has been wrought on and laid open for 60 fms. in length, and for a depth probably of 6 to 8 yards on the average, and from these workings about 40 tons of good lead has been taken out, and there are at present some good piles of ore stuff on the surface, and some small piles of cleaned lead in the bin. Looking at the kindly appearance and productive character of this lode, and also the fact that the rich lode so extensively wrought on in the Pandora Mine crosses it not from the west but from the east, I am fully persuaded that the Goddard's Mine richly deserves a spirited prosecution by its owners, who, I am confident, are likely to be remunerated for the outlay that may be made in so doing. With reference to the power required for the development of the mine, the agent, Capt. Vivian, and myself, having given the matter fair consideration, agree that a 10-horse power Kewey engine similar to the one we have here in D'Ersey Mountain, would be the best. This would answer the purpose of pumping, winding, and crushing. The Kewey is the most economical for fuel, can be easily erected, and not expensive to purchase, and as this engine could be put up near the shaft few rods would be required. The pitwork for the shaft would be light and inexpensive, therefore, seeing that this mine can be worked down to a fair depth (say, 50 yards) at a small outlay, I feel quite satisfied in strongly recommending the company proceeding without delay.

**GOODEVERE.**—R. Knott, Jan. 18: The timbering of the shaft on the new lode is completed, and the men are now engaged in making barrow road from the adit to the shaft. This work will be finished to-morrow, when we shall at once put the men to drive on the course of the lode. No other change under-

ground calling for remark.—Surface: During the last few days we have been stamping some of the work from new lode, which I think is turning out satisfactorily considering it is being raised so near the surface. The eight heads at work are doing good duty. The necessary ironwork for the next cover is being got on with. I hope to have the other four heads in their places in about a week.

**GORSEDD AND MERLLYN.**—W. Edwards, Jan. 19: At the 90 west level we have met with a knot in the vein, but are now passing through it, and the lode is opening up satisfactorily; at present for lead it is worth ¾ ton per fathom. The men have driven 2½ yards in this end since last report, and I am glad to say the tribute pitches maintain the value last reported. We are very busy preparing to sell a parcel of lead next week.

**GREAT EAST VOR.**—H. Cowling, Jan. 18: This mine is a little wonder. We are just a few fathoms from the engine, and the lode is as rich and as strong as any I have ever seen in depth. If we have a continuance of the present indications we shall soon see our lodes Nos. 1 and 2 form a junction and develop into one of the grandest champion lodes of the district.

**GREAT HOLWAY.**—W. J. Harris, Jan. 19: Roskell's Shaft: In the 110 west fair progress is being made; the lode maintains its width, from 4 to 5 ft., and appears under a favourable aspect, and at present exhibits a very encouraging appearance. The lode in the 95 north is worth 1½ ton of lead ore per fathom, and most promising; the character of this lode is such as seldom falls becoming rich, and I anticipate better results.—Level Engine: The lode in the 80 east is 2 ft. wide, producing 15 cwt. of lead and 1½ ton of blende per fm. Water flows freely from the forebreast, a favourable indication of easier ground and better progress. We contemplate commencing a rise against the winze from the 60 to hasten communication; this done trials will be made upon the north cross-cut lode in level, which now offers tempting prospects. The lode in the 60 fm. level east is slightly disordered, but we have now turned to the south, where there is a strong branch of lead ore worth 1½ ton per fm., and I expect meeting with other branches as we proceed. The lode in the sump below this level contains stones of lead and a good mixture of blende. No time shall be lost in communicating this with the 80. No. 1 pitch, in back of this level, is producing 1½ ton of lead ore per fm., and good quantities of blende. No. 2 is worth 15 cwt. of lead and 2 tons of blende per fm. No. 3 is producing 2½ tons of lead and 1½ ton of blende per fm. No. 4 is worth 4 tons of lead and 1½ ton of blende per fm.—Brambley Shaft: No. 4 pitch, in back of the 60, is producing 2 tons of blende and 8 cwt. of lead ore per fm. No. 5 pitch is worth 15 cwt. of lead ore per fm.—Office Shaft: The pitch in the 60 west is producing 1 ton of lead ore and 1½ ton of blende per fm. All surface work progressing satisfactorily—dressing in particular doing well. To-morrow we shall sell 30 tons of lead ore, and early next week shall sample a parcel of blende—say, 40 tons.

**GREAT LAXEY.**—F. Reddiffe, Jan. 18: Deep Mine: In the 247 north finding that the branch upon which the level was being driven continued to diverge from the proper course after passing through the slide, and was of no great value to the east is producing good copper intermixed with blende, and the 215 end of the lode is much improved, and worth 40s. per fathom. The lode in the new winze sinking in this level is not so good as last reported, the present value being 40s. per fathom. The two stopes in the roof are worth 25s. and 55s. respectively. We have started two new stopes in the 200 north, one at each end of a winze, but just at starting the lode in them is of no great value; a little way down, however, the winze passed through rich ground, and the stopes will be in this a fathom or so. A stope in roof of this level is worth 40s. per fathom. I do not think there is any other change throughout the mine requiring notice.

**GREAT WEST CHIVERTON.**—W. J. Harris, Jan. 17: I am glad to inform you we are looking much better in the deep adit west on the north lode; it is 2 ft. wide, with good stones of lead in it, and looking kindly to further improve. **GWYDYR AMALGAMATED.**—J. Roberts, W. Sandoe, Jan. 18: Clementina: The engine-shaft is now quite complete to the 44, and cased and divided down, and we have commenced driving the 44 north of the engine-shaft. The north end at the 34 is much the same in value as for two or three weeks past. The lode is divided by a small horse, and there is a good branch of lead on either side. The lode in the south end at the 34 seems to be improving. We have just cut into a large vein, and there are good indications of lead about it. Aberllyn: The sump at the No. 2 is showing more lead than we have seen in it at all. We have cut into the lode nearly 3 fathoms, and the last fathom is chiefly quartz, with spots and patches of lead all through it—a very kindly lode. The No. 2 end is without any change. By the end of the week we will send you a plan showing the relation of this end to the shaft by the cottage, and more particulars about it. We are clearing out the western level at the No. 3, where there is a strong lode with a large stream of water coming from it, in order to drive the shaft way to see how it will prove.

**KIT HILL GREAT CONSOLS.**—I. Richards, Jan. 19: At the tunnel level tolerably fair progress in driving is being made. At about 6 ft. from the farthest point reached we have intersected a lode about 1½ ft. wide, consisting principally of quartz, with a small quantity of capel and a little prian. In the north engine-shaft sinking below the 62, the lode is from 2 to 3 ft. wide, composed of capel, quartz, peach, wolfram, and a little tin ore. In the 62 east the lode is 3½ ft. wide, composed of capel, quartz, peach, muffle, and a small quantity tin ore. In the 62 west the lode is 4½ ft. wide, composed of very fine capel, quartz, peach, and some good tin ore.

**KIRK MICHAEL.**—R. Rowe, Jan. 18: The lode in the 30 end north to-day is again smaller; the rib of lead is now about 3 in. wide, and the same may be said of the 20 north; the leader of ore in lode is now about 4 in. wide, but the ground for driving is much easier. The stope in the back of the 20 continues about the same, worth 15 cwt. of lead to the fathom.

**LADY BERTHA.**—Thomas Gregory, Jan. 18: The lode in the 30 east maintains its former value, and appears to be increasing in size as we advance. The lode in the 20 east is producing good copper intermixed with blende, and the ground appears to be improving. The stope is producing the usual quantity of muffle and the tributors have nearly completed sending up their broken ore for last month. We have a good supply of muffle at surface ready for the carriers. Machinery working well.

**LADY RASHLEIGH.**—P. Rich, Jan. 18: Seven men have been engaged during the past week in clearing out debris from Edwards' shaft, which work they have now completed. The level which they have now cleared out is driven 5 fms. at this point, and here we find that the lode is intersected by the cross-course mentioned last week. I find a large stream of water coming out from the west end of Edwards' shaft, 2 fms. above the back of the deep adit level; at this point we find a level driven west by the ancient miners, and can see in 10 fms. west 5 fms. beyond the deep adit. I expect to let you know the result of this shortly. Two men have commenced widening the upper level in readiness for the water-wheels. All other surface work progressing as usual.

**LANGFORD SILVER AND COPPER.**—R. Goldsworthy, Jan. 20: I have seen Mr. Mason, of Callington, and taken the smith's shop at 3s. per annum till a three month's term, and have cleared up the level to clear the ground, and the adit anywhere in his land. The men are now engaged clearing the open cutting, which I hope will be completed the coming week. Mr. Mathews has agreed to go down with me next week to see about the engines, and to arrange about taking them out, as there must be blocks, chains, ropes, and timber for that purpose.

**LEADHILLS.**—A. Waters, T. Newbigging, Jan. 19: Brow Mine: Gripp's adit going north of Glengarran shaft shows a quartz lode, but without ore to value. The pitch in back of the 30 south of shaft by two men, at 50s. per ton; is worth 15 cwt. per fathom. The lode in the 25 south of shaft, north of the above shaft, by four men, at 80s. per ton; is worth 20 cwt. per fathom. George's Roust Vein: The deep adit level going north of Muir's cross-cut as a pioneer pit, has not yet made any discovery of note, but we expect important improvements as the end advances into the hill ground.—Brown's Lode: The 100, going south of Jeffrey's engine-shaft, shows a lode 5 ft. wide, spar, quartz, and lead ore; worth 20 cwt. per fm. The 85, south of said shaft, is also opening out a lode 5 ft. wide; worth 3½ ton per fathom. This end is now within about 15 fathoms of catching the dip of the great run of ore at and about Wilson's shaft. The stope in roof of 85 south is worth 25 cwt. per fathom. The 70 south is driven from Jeffrey's shaft 7 fathoms, and has gone 12 fathoms into the main road of ore. The last three months' driving has yielded 58 tons of lead ore, or about 20 tons per month. We shall have a richer lode than this as the end advances towards Wilson's shaft. The stope in roof of this level on No. 2 section of ore ground, south of shaft, is worth 70 cwt. per fathom. The 41, south of Jeffrey's, is driven 115 fms. 4 in., the last 28 fathoms being in a course of ore worth, on the average, 4 tons per fathom. The yield from this forebreast for last three months has been 42 tons 15 cwt. Lode in end on hanging side, about 6 fathoms behind Wilson's shaft, is 8 ft. wide; worth 6 tons per fathom. We are pushing forward here by the side of the rich ore course, and expect to hole to Wilson's shaft in 2 fms. 2 ft. 6 in. further driving. Gerson's winze below 34, on north end of main run of run, down about 8 ft., is in a lode worth 6 tons per fathom. The stope below this level south of Whitfield's winze on new discovery is worth 15 cwt. per fathom. Drift on said run above 41 is worth 20 cwt. per fathom. The stope above this level, south of Brown's winze on main run is worth 5 tons per fathom. Wilson's shaft below 20, now down 18 fms. 2 ft.; the yield for the last three months has been 45 tons 15 cwt. Lode in end on hanging side, about 6 fathoms behind Wilson's shaft, is 8 ft. wide; worth 6 tons per fathom. The south end of the shaft being the richest, it is evident that Wilson's run of ore is lengthening as we go down here. The stope below 20 north of said shaft is worth 60 cwt. per fathom. This stope has yielded, during the last three months, 102 tons 14 cwt. of lead ore. The stope above the 10, south of Moffat's winze, is worth 50 cwt. per fathom. Gripp's adit, going south of Dobie's vein on Brown's lode, shows a strong quartz vein in good looking ground. The pitch above said level by two men, at 80s. per ton; is worth 10 cwt. per fathom. Raik Vein: Pitch above Gripp's level, north of Jeffrey's cross-cut, by two men, at 90s. per ton; is worth 15 cwt. per fathom. The winze below 10 south of Watson's shaft, is worth 10 cwt. per fathom. The stope above said level is worth 6 cwt. per fathom. This is a trial point. The 10 south of No. 1 winze, south of Reid's shaft, is north 10 cwt. per fathom.—Jeffrey's Lode: The stope below 10, west of junction of Raik vein, is worth 30 cwt. per fathom. Pitch above Gripp's west by two men, at 90s. per ton; worth 15 cwt. per fathom. Taking the mine altogether, Brown's lode especially, from the 100 to 85, 70, thence to 41, 20, and 10, the prospects are never so great as now, the present reserves being four times the value they ever were before.

**MELLANEAR.**—John Gilbert, Jan. 18: There is no change in the cross-cut south of Gundry's shaft. It is still the elvan course, and is very easy for driving. The ground is a little more favourable in the 50 cross-cut, driving south of the main lode west of Gundry's shaft, and is getting mixed with small branches of spar and muffle. In the 70 cross-cut driving north we are meeting with floors of spar that are impeding our progress a little. This cross-cut is now

extended about 49 fms. north of the main lode. In the 80 driving west of Gundry's shaft, the north part of the lode is still 5 ft. wide, and yielding 4 tons of ore per fathom. The lode in the 100, driving west of shaft, is 3 ft. wide, and yielding 2 tons of ore per fathom. The winze in the bottom of this level, east of shaft, is yielding 3 tons of ore per fathom, and some good stones of tin. In the 110, west of shaft, the lode is 3 ft. wide, and yielding 1 ton of ore per fathom. The rise in the back of this level is yielding 2 tons of ore per fathom, and the men are making much better progress. In the 110, east of shaft, the lode is 5 ft. wide, and yielding 1½ ton of copper ore per fathom. We have the into the lode about 4½ ft. in the 120 cross-cut, north of shaft, which is producing good stones of copper ore, and saving work for tin, which is mixed with a great deal of arsenical muffle. It is a very strong and promising lode, and more productive than it was over this place in the level above. The lode in the 110, east of the old engine-shaft, is 5 ft. wide, yielding stones of copper and tin ores, and looking very promising for an improvement for tin. We have cut through the cross-course in the 110, west of shaft, but have not discovered the lode. It was above south about 6 ft. in the upper levels, and we are now driving in that direction. There is no change in any other part of the mine. We sampled yesterday computed 503 tons of copper ore.

**MONA CONSOLS.**—T. Mitchell, Jan. 19: We find the old sink in the bottom of the first level has been sunk nearly as deep as the bottom level, but the bottom level is not far enough west to communicate with it. The men will now drive west towards the sink, in order to get a hole through, and let down the water. There is about 4 or 5 yards to drive to hole through; the lode here is showing a little copper ore, and it is likely to improve in driving towards the sink.

**MORFA DU.**—T. Mitchell, Jan. 18: The various points of operation here continue to look much the same as when last reported. The winze sinking in bottom of the 20 at Ida shaft is at present going down by the side of the lode, the lode having shifted a little towards the south out of the regular line of the winze, but it may come into the winze again in going down, as the lode here is subject to such variations.

**MYNYDD GORDDU.**—T. Kemp, Jan. 18: The part of the lode opened on by the 46 end, west of cross-cut, has not, since last reported, undergone any material change, being precisely of the same character, principally killas, brown and grey, carrying ribs of muffle, intermixed with a little lead ore. The ground continues very hard, consequently slow progress is being made. The stope in the roof of this level is worth 12½ tons per fathom. The part of the lode carried by the 46 end, east of cross-cut, is, for the width (5 ft.), composed of killas, carrying ribs of calc spar, spotted with muffle, in ground also tight for opening. The stope under the 34, on north part of lode, is worth 10½ tons per fathom. The stope under the 34, on main part of lode, is worth 20½ tons per fathom. The lode in the pitch, over the 12 east of cross-cut, is worth 8½ tons per fathom. The men employed in fixing new footway through the old workings will complete the same to-morrow. We forwarded on the 18th inst. 10 tons of silver-lead ore to Messrs. Goodhart and Co., and every effort will be made to get another parcel ready at the earliest date possible. Hauling and dressing going as usual, and the machinery in good order.

**NEW KITTY.**—W. Vivian, Jan. 19: We continue to make good progress in sinking the engine-shaft below the 24. In the 24, driving east, the lode is 2 ft. wide, producing a little tin, saving work for the stamps. No change to notice in other points of operation since last week.

**NEW GREAT WHEAT VOR.**—H. Cowley: We are continuing our work with the same result, and the lode improves as we go down. The only thing to be desired now is to see the stamping machinery in full work. When we get tin in the market everyone will know what we know already—that we have a tin mine which has no superior in Cornwall.

**NORTH BUSY.**—Jan. 18: Nothing new to report in the engine-shaft or the 18 east. The 10 east is driven within 6 ft. of the old mine, and is letting out water freely sometimes heavily charged with ore; this end is draining the old mine, lode in end 3 ft. wide, worth 8½ tons per fathom. The 10 end west is improved, lode now 3 ft. wide, producing saving work for tin. In the 10 cross-cut we have met with a small branch producing a little tin, but I think we have more lode before us, which we shall prove by a fathom or two driving. We have started a cross-cut to drive south at the 12, west of Knight's shaft, to intersect a south lode which has been seen in the adjoining mine.

**NORTH D'ERESBY MOUNTAIN.**—R. H. Vivian, Jan. 19: The drive north from the bottom of the new shaft never looked so well for lead ore as at the present time. We have now a rich rib of silver-lead ore up and down the forebreast, which averages nearly 6 in. in width, about half of which will make nearly 3 in. of solid ore, this is an improvement on anything previously seen this end—a most encouraging lode.

**NORTH GREEN HURTH.**—J. Polglase, Jan. 12: There is nothing new to report in the deep adit level. The vein is not cut yet in the shallow level. Probably its inclination is eastward, and that may be the cause of not seeing the vein so soon as expected.

**NORTHERN LEAD.**—Thomas Tonkin, Jan. 19: The tribute ground generally is looking favourable, and the yield of ore up to the average. There are three stopes in the 15—two in the east section and one west of Low shaft. The stope east of Low shaft ground in easy ground, and yielding respectively 8 and 10 cwt. per fathom. The west section stope, also in easy ground, yield respectively 8 and 10 cwt. per fathom. There are two stopes above the 42—one west section and the other east section. The west section stopes are looking favourable, and yield 20 cwt. per fathom; and the east section stopes yield 10 cwt. per fathom. The stope above the 25, east section, yield 8 cwt. per fathom. Dressing operations are being pushed forward as rapidly as possible, and the machinery is in fair working order.—Brandon Walls: We will soon be in a position to push forward the 37 and 50 simultaneously. The securing of the ground has occasioned our breaking into the lode in places, and the stones of lead ore and other favourable indications we are meeting with are very encouraging.

**OKEL TOR.**—H. Bulford, John Rodda, Jan. 19: The new shaft east is down 20 fms.; the ground here is of a congenial character for mineral. The lode in the end driving towards the shaft is producing good work for tin and arsenical ores. The stope in the western part of the mine are looking very well, and are producing their usual quantities of arsenical ore. The Tangey pump has been put right, and is giving a plentiful supply of water for the stamps, which are working exceedingly well.

**OLY GUNSLAKE.**—W. Skevis, R. C. Scoccombe, Jan. 19: We have cut the lode recently met with in the adit level cross-cut, and have driven about 3 fathoms on its course. At present the lode is divided into two parts, the north or main part, being about 2 ft. wide, composed of peach, muffle, and spots of copper ore, but not sufficient to value. The bearing of the lode—30 north of west—coupled with the flow of water from the north side, leads us to believe there is more lode further north, we are therefore pushing on the cross-cut north with all speed to prove this.

**PANDORA.**—H. Sottingham, Jan. 18: The end driving south at the 45 fm. level shows a strong, well defined lode, about 4 ft. wide, producing 1 ton of lead and 1½ ton of blende per fathom. No. 1 stope over this level is worth 1 ton of lead and 25 cwt. of blende per fathom. No. 2 is worth 25 cwt. of lead and 1½ ton of blende per fathom. The stope under level north of shaft is looking very well along the bottom, and will average 1½ ton of lead with 25 cwt. of blende to a cubic fathom. The best of this ore is now appearing to dip, and making best going down north of the shaft. No. 2 stope, over the 33, south of shaft, is worth 15 cwt. of lead and 1 ton of blende per fathom; and No. 3 stope 10 cwt. of lead and 1 ton of blende per fathom. Drawing and dressing is being carried on without interruption, and weather extremely fine for the time of the year. We are sending out samples for 22 tons of lead and 35 tons of blende.

**PANT-MWYN.**—Enoch Parry, Jan. 19: We have reached the footwall portion of the lode in the 22, west of Modlyn, and the indications are such as to lead us to expect a rich run of lode ore as soon as we proceed westwards with the level.

**PARYS COPPER CORPORATION.**—T. Mitchell, Jan. 18: The 90, west on No. 2, is not looking so well at present. The lode is still being disordered by several cross-joints, and we are, however, hoping it will improve again shortly. The rise in back of this level (No. 2) will be worth 10 tons of copper ore per fathom. The lode here looks strong and kindly. The 90, east of cross-course, will yield 4 tons of copper ore per fathom. This is a nice-looking lode, and it has every appearance of a further improvement. We expect to open up a good piece of ground here. The tribute pitches are looking much the same as usual.

**PELYN WOOD.**—T. H. Bennett, Jan. 19: The ground in our drive during the last month has been rather stiff, but we have succeeded in extending the level 9 fms., and I have again set to the six men engaged at 2½. 15s. per fm. Two weeks since, I am satisfied, the ground will be easier shortly, and the lode will further improve; at present it is composed of gossan, quartz, muffle, and ore, and the end is again letting out water freely.

**PENHALLS.**—S. Bennett, R. Harris, Jan. 14: There is not much change in the lode in the 80 end west from Blue Hill boundary. In the 80 west from the engine-shaft, it is 1½ ft. wide, producing low quality tinstuff. In the 70 east end it is also producing low quality tinstuff, but not of much value. The 55 east is poor. The rise in the 45 west is worth 5½ tons per fathom, and the 42 west end on the north lode is worth 12½ tons per fathom.

**PENYANT.**—Jan. 19: The 40, I am glad to tell you, is still being driven in a very fine lode, composed of sulphate of barytes and lead ore; its fact it is improving every inch driven. The stope are turning out well, and we are very busy on the dressing floors.

**PIONEER.**—Jan. 19: Silver Lead Mines, Holywell: At Bessie's shaft the lode still maintains its full value, and, if anything, is richer than before, yielding fine rocks of ore.—New Discovery: We have made a further very valuable discovery here. We have met with large boulders of galena quite equal to what we are getting at Bessie's shaft. Further particulars will be forwarded in two or three days. Blackwell shaft is not looking so well. We have put tributors to work in the rise in roof; they are doing pretty fair, but not as well as expected. We have to drive about 5 yards further before cutting the cross lode. This done, there need be no fear at all of the results. We feel quite confident that in a month or so we can give every satisfaction to the shareholders, as our mines are certain to turn out well.—Engine-Shaft: Good progress is being made here. The 60 east has much improved, and I hope in the next report to have something important to communicate. The rise in roof of 60 does not look quite so well, but it will be continued, as we are almost certain to come on a good body of ore. We have been very busy with the new pumping machinery. The engine and boilers are erected, and the pumps have been put down. We have only now to make the steam-pipe connections, and fix and attach the pumping and reversing gear. Mr. Howell has promised for certain to deliver everything remaining of the pipes, &c., this week, and we expect to be ready to start pumping on Monday next for certain.—Pioneer Copper Mine, Harlech: We have commenced driving the deep level on the lode to the south-east, according to instructions, and the lode has improved, showing spots of copper. We shall continue the level on to get under the sump sunk in the upper or shallow adit.

**POLROSE.**—W. Bennett, Jan. 18: The shaftmen are engaged cutting down and timbering the diagonal shaft. There is no change in the 100 east or west, the lode in each end being about 2 ft. wide, producing saving work for tin. There is nothing new to report in the 90 cross-cut south. The lode in the 90, east of north cross-cut, is of the same size as for some time past, and producing good stones of yellow copper ore. The 90, west of ditto, is a little more spar for driving. The ground in 70 cross-cut north continues of a very favourable character, and we are making capital speed with the driving. The men in the western adit on the caunter lode are making their usual progress, but there is no change calling for remark.

**PRINCE OF WALES.**—S. Roberts, G. Rowe, Jan. 18: We are daily expecting to cut the lode in the 102 cross-cut south. We are intersecting small branches, which appears to be droppers in the











hopes that we will get an ore body in that locality. The 200 rise south from drift has been extended to 10 ft. in ledge matter; the 500 rise from quartzite drift, 12 ft. in quartzite; the 600 rise from east drift under 14 chate, 6 ft. in low grade ore; the 600 rise from near north fissure, 7 ft. in limestone; and the 700 winze from south-west drift, 6 ft. in limestone. The mine is producing ore equal to the reduction of the furnaces.

Ruby and Dunderberg, 1½ to 2; the weekly telegram advises the sale of 52 tons of ore, which realised about \$20 per ton net. The ore extracted during the week was 33 tons, which show a slight increase on the previous week. It is reported that the No. 7 ore body is again increasing in size and quality. This body is still being followed below the 700 ft. level.

Missouri, 10 to 10½; advices received this week state that at the St. Clair shaft in the 315 north level 17 fms. of ground were stopped in December, yielding ½ ton per fathom. The stope is now worth 1 ton per fathom, and bids to continue of this value during the month. At old engine-shaft the 270 north was driven 74 ft. during the month. In the 270 south the vein is 2 ft. wide, and shows favourable indications; this level is now in more speedy ground. The rise in the 270 north was being pushed capably on.

News from the South African Diamond Fields continues to be much of the same character as for some time past. The existence of diamonds has never been doubted, but it seems that until 850,000, has been expended at the Kimberley Mine alone the claims will not be in a condition to justify English capitalists in hoping for profits. The Central Company, the French Company, and the British are said to be good, but what the English require to know is whether the rate of dividend is maintained and paid in cash. The publication of accounts in England showing the returns, with average price per carat, &c., and the expenditure, detailing to what purpose the money has been applied, is required to give confidence to British capitalists. Mr. Kito, having once published the fact that the mines are in such a condition that they cannot be profitably worked, equally well substantiated facts are required to counteract the effect produced. It appears that in addition to female doctors and female University students, we are now to have female company promoters, for our Kimberley correspondent writes that "the numerous salted swindlers are quite shut up; but there is a female in England (a Mrs. P.), trying to float the greatest swindle ever placed before a confiding public. If you notice this affair, please use your powerful influence to stop it."

The Mysore Reefs Gold Mining Company has issued a circular to the shareholders embodying Mr. Henry Moon's report, in which it is said:—"The stamping mill has eight stamps ready for work, with the foundations out for eight months, which I hope and believe will be in place by the end of the year, or in the first week of 1882. The foundation for the engine to drive the stamps is ready for the stone-work. The engine is close by, and on completion of the stone-work will be at once fixed, but cannot be got to work till the arrival of the smith, as the holding down bolts have to be filled up after the stone-work is completed and the engine in place. Everything that has been done has been planned with the desire of getting the greatest benefit for the least money. I have every confidence in saying that the best has been made of the position, so as to secure economy in working in the future. Everything has been well done, and every enquiry has been made at Madras and Bangalore before such things as doors and windows were made, as to whether they could be bought or made for the least cost."

At the Eureka (Nevada) Silver Mining Company the usual amount of work has been done on the Bald Eagle Mine, and a new drift started in the 150 ft. level in an easterly direction. All the levels now seem to be in ground more favourable for drifting. No work has been done in the Williamsburg, the miners suffering from lead poisoning. Walkham United, 1 to 1½; the mine has been forked, and a productive tin lode has been discovered, which is turning out well. Captain Skewis, of Tavistock, has within the past few days inspected the mines, and gives a highly satisfactory report, strongly advising their spirited development while the present high price of tin prevails.

The Union Bank of Australia notify that they will be prepared to pay on and after Feb. 1 the half-year's interest due at that date on the Six per Cent. Debentures of the Oamaru (New Zealand) Harbour Board Loan 65,000. The Ontario Silver Mining Company's regular (75th) monthly dividend of 50 cents (2s.) per share has been declared for December, and is now payable at the office of Messrs. Elves and Allen, on all stock registered in England. The estimated receipts of the New York, Pennsylvania, and Ohio Railroad Company for the fourth week in December amount to \$110,496, against the estimated earnings for corresponding period last year \$99,693, showing an estimated increase of \$10,798.

At Swansea Ticketing, on Tuesday, 970 tons of ore of 9½ average produce, and containing 91 tons 19 cwt. of fine copper, were sold for 5876l. 5s. 0d., being 6l. 1s. 2d. per ton of ore, 12s. 9½d. per unit, or 63l. 18s. 1d. per ton of fine copper in the ore, and an average standard of 88l. 8s. 5d. for 9 per cent. produce. Subjoined are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Dec. 6	960	87 9 0	15½	£3 17 1	13s. 0½d.	£85 2 4
Jan. 17	970	88 8 5	9½	£3 12 9½	12 9½	£3 18 1

Compared with the last sale, the advance has been in the standard 0l. 19s. 7d., and in the price per ton of ore about 1s. 11d. The Bets Cove ore of 7½ average produce realised 12s. 9d. per unit; Berehaven, produce 7 9-16, per unit 12s. 8d.; New Quebrada, produce 10½, per unit 12s. 6½d. There will be no sale on Jan. 31.

At Truro Ticketing, on Thursday, 2226 tons of ore, of 6½ average produce, and containing 140 tons 1 cwt. of fine copper, were sold for 8194l. 8s. 6d., being 3l. 13s. 6d. per ton of ore; 11s. 11d. per unit, or 59l. 10s. 0d. per ton of fine copper in the ore, and an average standard of 102l. 6s. Subjoined are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Jan. 5	951	£15 19 0	5½	£3 5 0	11s. 5½d.	£37 6 0
" 10	2225	102 6 0	6½	£3 13 6	11 11	£37 6 0

Compared with the last sale, the decline has been in the standard 1l., and in the price per ton of ore about 1s. 6d.

**GAS SHARES.**—The principal business in these shares, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, has been—Bombay, (Limited), 5½ to 5½; British, 34½; Commercial, 18½; ditto, New Stock, 14½; Continental Union (Limited), 25½ to 25½; ditto, New, 18½ and 18½; ditto, 7 per cent. pref., 25½; European New, 13½; Gas Light and Coke, A (Ordinary), 17½ to 17½; ditto, 7 per cent. max., 132; ditto, 4 per cent. deb. stock, 102½; Hong Kong and China, 15½ to 15½; Monte Video, 14½; Rio de Janeiro (Limited), 25 to 25½; South Metropolitan, B, 17½; ditto, Perpetual, 5 per cent. deb. stock, 123½. Gas stocks firm. For closing prices see list on the last page of Journal.

**INSURANCE SHARES** have, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance, British and Foreign, 36½ to 37; Atlas, 18½ to 19; City of London Fire (Limited), 15½ to 15½; Commercial Union, 22½ to 23; Employers' Liability Association Corporation (Limited), 17½; Fire Insurance Association (Limited), 4½ to 4½; Home and Colonial Marine, 2½; Law Life, 12½ to 12½; Marine (Limited), 25½ to 26; North British and Mercantile, 68½; Sun Fire, 45½. Marine Insurances steady; others flat. For closing prices see list on the last page of Journal.

**TRAMWAYS.**—The closing prices of this evening, as quoted by Mr. W. Abbott, of Tokenhouse-yard, are given in tabular form in the last page of Journal.

**RAILWAY AND GENERAL MARKETS.**—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk, 5, Birch-lane, writes:—"Opening: Foreign bonds are flatter than ever. Those who have threaded their way through the foggy streets find that 66 will purchase United, and that only 26½ can be got for Spanish. In Paris there appears to be a perfect collapse, although there is no confirmation of yesterday's rumour that a certain bank had actually succumbed. Last week the shares of the Union General Bank reached 107; they are now reported to have fallen below 40. Ottoman Bank shares have dropped to 13½; yesterday they were dealt in here at 21. Rio Tinto shares are involved in the general scramble, and can only be sold at a little over 24. Last week they were 30. Turks are but 12 to 12½. Railway shares have not as yet been much affected, but it is feared they will be shortly. Wheel Crebor, 3 to 3½; Parya Corporation, 14s. to 16s. Closing: Everything is better. United dropped at one time to 65, now 66. Spanish, after touching 25½, are now 26½ to 26½. Ottoman Bank shares are up to 20. Brighton, A, have been conspicuously firm throughout the confusion, and are now 142½ to 142½. Great Western being again close upon 137. North British actually show a rise of ¼ on the day. Rio Tinto, 24½ to 24½. Mason and Barry, 8½ to 19.

**Messrs. FIKLEY and ARRELL.**—Gold: The transactions in gold have not been of much importance this week. Only 25,000l. sovereigns have been withdrawn from the Bank for the River Plate; on the other hand, 20,000l. bars, from Australia, have been sent in. The arrivals mentioned below have also been taken for South America:—The Medway brought 14,500l. from the West Indies; the Douro brought 29,200l. from the Brazils; total, 43,700l. The West India mail steamer has taken 21,000l. to the West Indies. The production of gold on the Pacific Coast for 1881 was 831,889,890. Silver: The market has been firm during the week, and 52½d. was obtained for the quantity by the West India steamer; some amounts then came to hand from America, and the price declined to 52d. per oz., at which rate a considerable business was done. A further slight fall has taken place to-day, and 51½d. is the present quotation. The West India steamer brought 22,000l., and the American vessels 39,200l. from New York. The F. and O. steamer takes 123,800l. to India. The production of silver on the Pacific Coast for 1881 was \$45,077,830.

**COPPER.**—Messrs. JAMES and SHAKESPEARE (Jan. 17) write:—"Such erroneous impressions are current as to the position and prospects of this metal, that we have deemed it necessary, in the interests of clients who are large importers and producers, to critically examine statistics, and lay before them the result of our researches. \* \* \* The actual public stocks here and in France now barely exceeds four months' present consumption; and presuming there is a repetition of the imports and deliveries of the past year, the quantity in store at end of December will be reduced to some 27,000 tons, about sufficient for three months' consumption only. Stocks, it is true, merely constitute a reserve for the trade, and the existence thereof proves an excess beyond actual requirements; but no one can wish for a state of affairs wherein consumer would be entirely dependent upon imports for the supply of their daily wants, and we should ourselves regret to see such a further reduction in available metal as would open the door to speculative operations of a decidedly objectionable character. It is, of course, impossible to accurately forecast imports or deliveries for the present year, but they are no signs of increased supply from any quarter, whilst many circumstances tend to show that consumption will rather extend than diminish."

Messrs. HARRINGTON, HORAN, and Co. (Jan. 14) write:—"The Board of Trade Returns indicate that the exports of copper together with other commodities have been of greater magnitude than for many years past. A good deal of briskness and more cheerfulness in the Home Trading Centres is now manifest, and with moderately high rates for money, together with the present prospects in view holding good, we have hopes that 1882 may be numbered among the years of prosperity."

## DEVON GREAT CONSOLS.

Although the Cornish copper ticketing showed the slight decline usual when Eastern ores are sold, the beneficial effect of the recent enormous rise was evident in the case of Devon Great Consols, which made an excellent sale of copper ore on Thursday—1042 tons, realising 2456l. 12s., being the best sale for a long period, and the largest quantity and amount realised since the shares were selling at 18l. to 20l. per share, or three times the present market price. It appears, as will be seen on reference to the sales of ores in the statement issued to the shareholders, and passed at the meeting in November last, that the sales were as follows:—

Sold.	Quantity.	Value.
April 21, 1881	820 93 0	£1449 13 0
May 19 "	802 3 0	1321 3 3
June 23 "	806 13 2	1331 18 7
July 21 "	808 9 0	1545 8 1
Aug. 18 "	799 7 2	1307 15 0
Sept. 22 "	868 13 2	1707 2 0

Since the above were sold and credited in the accounts the following sales of copper ore have been made:—

Sold.	Quantity.	Value.
Oct. 20, 1881	871 3 0	£1622 17 11
Nov. 17 "	933 12 0	1818 18 0
Dec. 22 "	930 15 0	2058 19 6
Jan. 19, 1882	1042 0 0	2456 12 0

So that it will be seen that the four months' last sales well on realised approaching the previous six months. If the next two months realise results equal to the last two months a favourable half-yearly account might as a consequence be anticipated.

## LA PLATA MINING AND SMELTING COMPANY.

The first of the large buildings of the La Plata Mining and Smelting Company was built in June, 1878, by Berdell and Witherell, who were then engaged in the business of sampling and crushing ores. A furnace of 50 tons capacity was (says the Leadville Daily Herald of Jan. 1) started in October, 1878, and the second one built in February, 1879. On June 14, 1879, the new company purchased the entire property, and took possession of the smelting works, together with 24 acres of ground and about 20 buildings, located just below the City of Leadville. At the same time the three claims on California Gulch, known as the La Plata Mines, were transferred. The new company constructed a third furnace, which was put in operation on Aug. 1, and the fourth was started on Dec. 22, 1879. During 1879 the value of the bullion produced at the works amounted to \$1,741,040. In the year 1880 the production was \$2,316,310.

Two new furnaces have been built during the past year, one started in April and the sixth put in blast on Dec. 13. All six furnaces are now running and reducing about 160 tons daily. Several large additions to the buildings have also been made. There are on hand about 6500 tons of ore. The bullion shipments for the past year contained 1,135,590 ozs. of silver, valued at \$1,277,540. The lead value amounted to \$682,991, and the gold to \$11,120, or a total of \$1,960,511. Of this amount during the past three months the product has been \$380,472. The company has paid 28 regular dividends of \$15,000 each, besides one extra one of \$10,000, making a total of \$430,000. In dividends. The working capital of the company of \$100,000 is also intact, and there is a surplus on hand in addition of \$60,000.

**DEVON FRIENDSHIP.**—The 30 west is worth 16l. per fathom, and there is likely to be an important improvement in the 30 east: when they are through the present hard bar of ground. They expect to sell this month 5 tons of tin, besides the usual 50 tons of arsenic. They have discovered a large quantity of good tin stuff among the waste heaps at surface, from which a valuable return of tin will be made. The new crusher will be ready to work next week.

**BEDFORD UNITED.**—It will be seen by the report published in our columns to-day that in continuing the shaft below the 30 fm. level the south part of the lode is stated to be worth 20l. per fathom. This is a very important discovery, inasmuch as it clearly proves that as sinking progresses a valuable property will be opened up. The 30 east and west are nearly under the bunch of ore discovered in the level above, where a little short of 900 tons are computed to be in reserve, and which can be taken away at a good profit as soon as the necessary ventilation is effected.

**PRINCE OF WALES SLATE QUARRY** (Carnarvonshire).—A chamber has been commenced on the north side of the cross tunnel on the western vein for the purpose of slate making. The eastern cross tunnel has now been driven 4½ yards towards the eastern slate vein, where it is believed a large body of profitable slate rock will be found. Slate making will be commenced next week in the sink on No. 5 gallery.

**TRESAVEAN MINE.**—The latest reports show that rapid progress is being made with the 90-inch engine. From Wheel Boys shaft rich tin stuff is being drawn, which will be crushed and dressed for sale at once. William's shaft is completed, and a steam-whim is being fixed to draw tin stuff from this shaft also. It is universally admitted that the old levels of Tresavean Mines (previously worked for copper) contain a practically inexhaustible supply of rich tin stuff. The shareholders in this re-opened mine may be congratulated on their venture, looking at the rapidly advancing price of tin. The system adopted by the directors of sending a monthly report to the shareholders during the progress of the re-opening of the mines is to be commended.

**HUNGARIAN COPPER COMPANY.**—In another column appears the report of the general meeting, which was well attended. A satisfactory report from the manager of the mines was presented, as the ore already laid open was stated by him to amount to over 7000 tons, a great deal being high-class copper ore, and all of it containing gold and silver. Smelting had commenced, and metals would be in the market in March. A valuable colliery had been purchased, containing 600,000 English tons of coal for less than 1000l., and Mr. Varga had within the last few days discovered two new veins of ore, showing rich silver in the out-croppings. One of the large Hungarian shareholders attended, and spoke in the highest terms of the property and of the executive; and in pursuance of a notice which had been given a scheme of re-construction was submitted, which it is considered will be greatly to the advantage of the shareholders and was approved of by them. It was incidentally stated that overtures had already been made with a view to the purchase of a portion of the property not required by the company.

**INDIAN GOLD MINES.**—MYSORE REEFS.—With reference to the letter of "Photophone" in last week's Journal the subjoined letter has been addressed by Mr. P. A. Eagle, the secretary, to a shareholder, who has forwarded it for publication. Mr. Eagle says:—"Your letter of the 16th inst., addressed to Mr. Watson, requires, I think, immediate attention. I therefore beg to state that, so far as we are advised, not only by our own manager at the mines, but by all authorities on the Mysore District, there is no foundation for the statement contained in the letter to which you refer as regards the gold bearing character of the Mysore District. The whole of the samples

sent over for analysis, and which have been tested by the assayer to the Bank of England, contain gold, and the manager at the mines, so far from sending in his resignation, is making arrangements to test the ground in a thoroughly systematic manner. He has all his dams completed, and is erecting crushing machinery. The letter in question being an anonymous communications I must express my surprise that any credence should be attached to the statements therein contained. The matter will be doubtless be brought before the board at their next meeting on Thursday. I may add that extracts from a letter just received from the manager will be sent to each shareholder in a day or two."

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### Notices to Correspondents.

\* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

COMBELLACK.—Can any of your readers say what is doing in the matter of the Combellack Mining Company, the office of which used to be at No. 19, Bishopsgate-street Within?—R. W. B.

Received.—F. M. F. Cazin (New York)—"M. B. D."—"J. E."—"A. G." (Cape Copper)—"Bourbonite" (Winnipeg, Manitoba)—"G. J. G."—Next week—"A. R." (Highgate)—"J. B. A." (Adelaide)—"G. H. P." (Dublin)—"J. B. J." (Barnstable)—"C. W."—"J. F. E."—"Observer" (Durham)—"Y. S. T." (East Wheel Bulver)—"D. N."—"Shareholder" (East Chiverton)—"Old Reader" (Nottingham)—"Shareholder" (Wheat Crebo)—"Euclid": We have no space for such details—"A. T." (Hazard, Harborton): The judgment on appeal is referred to in another column. To sign "Justice" in an attack upon a judge because a decision is reversed is scarcely correct. Neither the lower court nor the Court of Appeal recognised fraud on the part of the directors. The winding up was authorised on another ground—"Vigilant" (Appollonia Gold Mining Syndicate)—"Shareholder" (East Wheel Rose, Old Shepherds, Mount's Bay, and Tresavean Mines).

## THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, JANUARY 21, 1882.

### THE FATAL EXPLOSION AT THE RISCA COLLIERY.

Repeated disasters of a particularly fatal character in the most fiery mining district in the kingdom it would seem have not been sufficiently deterrent to prevent the use of gunpowder in the bringing down of coal. Looking at its past history, one would have thought that the Risca Mine was one in which every possible safeguard had been taken to prevent an explosion. In 1846 there was an explosion at it by which 35 persons were killed; in 1853, there was another one involving a loss of 10 lives; again, in 1860, a fearful explosion killed 142; in July, 1880, there was one resulting in a loss of 120 lives; and now there has been another, but a less disastrous one. The Black-vein seam is known to give off a good deal of gas, as, indeed, do most of the beds peculiar to Monmouthshire and South Wales, and therefore the greatest precautions should be taken to prevent the gas from igniting. At one time naked lights were used in the Risca Mine, the men refusing to have safety-lamps on the ground that the light was so small that they could not get anything like a day's wages with them; but after the explosion of 1860, the men were induced to adopt them. In South Wales, however, at many collieries, naked lights are still used, as they have been at Dowlais, where explosions are by no means rare occurrence. But where safety-lamps are considered necessary, as is the case at the Risca Colliery, gunpowder should be done away with. With respect to the disaster itself there cannot be any question as to its actual cause. There was not a sufficient amount of ventilation, otherwise there would not have been a large accumulation of gas and air that only wanted a light to explode it, the same as would be the case with a powder magazine. The seam is admittedly a most dangerous one to work, and this rendered it all the more necessary that there should be nothing done that could lead to the gas igniting. So far as can be gleaned, the supposition is that the firing of a shot was the cause of the explosion, but it may also have resulted from a defective lamp, or by the striking of a match. But assuming that the former was the cause—as the possibility lies in that direction—we are again face to face with the question as to the entire prohibition of powder in mines, which has been much discussed, and with respect to which our inspectors of mines are divided in opinion—the majority being in favour of its being done away with. There are some coal mines in which powder can be safely used, seeing the seams give off little or no gas, but it would not be advisable to make a distinction by which one district would have an advantage over another. The Home Secretary has acted wisely in enforcing the legitimate rendering of the Act of Parliament as regards the use of powder under certain circumstances. At Risca there were four or five men in the mine at the time of the explosion, and we are not informed as to whether they were all engaged in the work of shot-firing, or whether two of them were so employed, and the others engaged in ordinary labourers' work, seeing that the Act requires that all persons, other than those appointed for the purpose, shall be out of the mine when shots are being fired.

The work of the colliery, it appears, is carried on by shifts, and the night shift would leave about two o'clock on Sunday morning, after which time the firing of shots would take place. A good deal of gas no doubt issued from the coal, but it may have been at times considerably augmented from other sources, for sometimes it comes rushing in streams (blowers as they are called) through the clefs that are met with in the strata of it, or from the cavities of the excavated coal, with a slight noise similar to that produced by hot water on the point of boiling, and at times it rushes from the floor. From whatever place the gas came it overpowered the ventilation, and joining what air there an explosive mixture was formed, and on the shot coming in contact with it there was the usual result. Not only were the men in the mine killed, but there were heavy falls of roof, which greatly retarded the operations of the exploring party. As is usually the case where all the persons in the mine at the time of such occurrences are killed, the actual cause of the explosion is not likely to be satisfactorily cleared up. But one thing is certain, and that is that there was not sufficient air going into the different places to sweep them clear of all the gas as there should have been, whilst the working of shifts would tend still farther to have the mine warm at nearly all times, and if not with sufficient gas to lead to an explosion at least to keep it in a most unhealthy state. But it will be well to have the lamps of the deceased men examined to see whether one of them was open, or whether they were all in a good state. At the early hour at which the men descended on the morning of the explosion the probability is that they helped themselves to the lamps. This, of course, is contrary to the Act of Parliament, but in such a case as that on which we are writing it is frequently if not, indeed, usually done, and we are not aware that this has ever been pointed out to juries sitting to inquire into the cause of explosions, although it is a most important matter, for it is laid down in the 51st section of the Act of 1872 that "whenever safety-lamps are required by this Act, or by the special rules made in pursuance of this Act, to be used, a competent person who shall be appointed for the purpose, shall examine every safety-lamp immediately before it is taken into the workings for use, and shall ascertain it to be secure and securely locked."

As we said before, it is not likely that the lamp-man would be at his post at three or four o'clock in the morning to give lamps to four or five persons, and if he was not, then the Act was not complied with as it should be. But the section even goes further, for it provides that lamps shall not be used until they have been so examined and found secure and securely locked, and shall not without due authority be unlocked. It remains to be seen whether the provisions of the Act have been complied with as regards lamps. In the same section it is provided that a competent person shall be appointed for the purpose of firing a shot after examining the various places contiguous to where the powder is to be used. But at Risca on the occasion of the firing of the shot on Sunday morning there were at least four persons in the workings, consisting of an overman, two firemen, and a labourer, so that it may be inferred that there was some other work going forward besides the firing of a shot. Where the shot was fired was in the main intake, where one would have thought no danger was to be apprehended, as the air there might be considered fresh and unmixed with gas. At the same time it shows that there must have been a very large quantity of it to foul the fresh air as it was going towards the different working places. At such a point, too, one would have thought that the ventilation would have been most abundant. This makes the explosion

different from most others that have been recorded, for they have generally occurred in the workings or in the "returns" where the air is mixed with the gas.

Whatever may have been the cause of the explosion, or whether it will be satisfactorily made out or not, the occurrence will be a very strong argument in favour of the entire prohibition of powder in coal mines, and if this is done, as in all probability it will be by Act of Parliament, we shall hear but little of colliery explosions. Not so many years ago there were more fatal explosions in Yorkshire than in any other coal mining county in the kingdom, but now we scarcely ever hear of one. This is the result of the efforts made by Mr. FRANK WARDELL, the Government Inspector, to put down the use of powder, and aided by both masters and men he was successful. The result is that in the West Riding of Yorkshire, where last year the output of coal was upwards of 18 million tons, there was only one death caused by an explosion. If such can be accomplished in one large fiery district surely it could be effected in others where the mines as a rule are not so bad. But so long as powder is allowed to be used in such mines so long shall we have explosions with their long death rolls. Safety lamps are an essential in many mines, are generally used in Yorkshire, and should be in South Wales, but there can be no good argument brought forward in favour of the use of gunpowder, for the safeguards provided for it have all proved futile.

### TEN YEARS' PROGRESS IN CLEVELAND.

The last ten years have been a chequered period in the history of the Cleveland iron trade. The rapid and almost unchecked advance which production made between 1850 and 1870 was not altogether arrested in the decade ending with 1881 inclusive, but there were more fluctuations and vicissitudes observable than in the preceding ten years. At the same time, we are justified in stating that 1880 and 1881 were years of unprecedented production, even in wonderful Cleveland, the district having felt very sharply the great impetus given to the manufacture of iron by the "boom" which set in in the United States in the autumn of 1879. With these observations we append the production of Cleveland iron year by year since 1872:—

Year.	Production.	Year.	Production.
1872 .....	Tons 1,137,233	1877 .....	Tons 1,453,219
1873 .....	1,162,898	1878 .....	1,343,950
1874 .....	1,119,251	1879 .....	1,248,411
1875 .....	1,256,850	1880 .....	1,626,212
1876 .....	1,359,253	1881 .....	1,644,795

We thus arrive at the remarkable fact that while the aggregate production in the five years ending with 1876 inclusive was 6,035,485 tons, the corresponding aggregate production for the five years ending with 1881 inclusive was 7,316,587 tons, showing an increase of 1,281,102 tons, or 21 per cent. Further, Cleveland produced in 1881 some 274,000 tons of hematite pig, spiegel, and basic iron, against 212,000 tons in 1880. Although the production of pig, ordinarily so called, was *prima facie* larger in 1881 than in 1880, it is right to remark that the stock in makers' hands at Middlesbrough at the close of 1881 amounted to 333,000 tons, against 298,403 tons at the close of 1880, and 272,472 tons at the close of 1879. Thus, while the production of 1881 exceeded that of 1880 by 18,583 tons, the estimated stock in hand at the close of 1880 by 34,577 tons, so that the increase in the production of 1880 would appear to have been scarcely called for by any augmentation in the actual current demand. This, however, is a matter of no great moment, as the substantial fact undoubtedly remains that 1881 was just about as prosperous a year in the history of Cleveland as 1880. As regards the exports of Cleveland pig iron, we may state that they amounted to 931,411 tons in 1881, against 260,581 tons in 1880, and 815,563 tons in 1879. Steel and finished iron was exported from Cleveland in 1881 to the extent of 280,943 tons, against 204,015 tons in 1880; 202,126 tons in 1879; 167,233 tons in 1878; and 123,242 tons in 1877. Of the exports in 1881 it may be observed that 131,726 tons represented the coasting movement, the exports over sea not exceeding 149,217 tons. The principal foreign customers for Cleveland finished steel and iron in 1881 were:—Holland, 10,349 tons; Italy, 14,948 tons; British India, 22,412 tons; United States, 33,055 tons; Brazil, 10,097 tons; and Australia, 11,525 tons.

Such are a few statistical illustrations of the industrial history of Cleveland in 1881. The past year was undoubtedly one of substantial prosperity, and the only drawback is the fact that the great increase observable in the production of Cleveland during the last two years is attributable to the revival of American railroad activity in the autumn of 1879. Affairs were in a languishing condition in 1878, and not even the turn of prosperity in the United States could make 1879 a progressive year. Under these circumstances, we are forced to the conclusion that any check in American railroad construction would not be without its influence upon Cleveland industry. Already there appears to us to be some symptoms of an altered state of affairs across the Atlantic. It was recently announced by a high American authority that 13,000 miles of new line had been mapped out for completion in the United States in 1882. Now another high authority, in calling attention to the fact that 8224 miles of new line were constructed by the Americans in 1881, expresses an opinion that, although there are a number of uncompleted projected lines still in hand, the new mileage of 1882 is not likely to equal the high figures of 1881. Our friends in Cleveland must not, then, indulge in too high hopes with respect to the new year upon which they have just entered, although probably the British colonies are likely to prove good clients of British ironmasters during the ensuing 12 months.

### A COLLIERY MANAGER ON THE EMPLOYERS' LIABILITY ACT.

The monthly meeting of the Mining Institute of Scotland was held on Thursday.—Mr. RALPH MOORE, President, in the chair. Mr. JOHN DRINNAN, Arden Colliery, Airdrie, read a paper on the Employers' Liability Act. He said the subject was somewhat of a departure from those generally before the Institute, but there seemed to him none from whom it more earnestly demanded consideration than the mining industries of the country, and his object was to secure such consideration. He was not one of those who believed that the employing interests would be seriously affected by the working of the Act, nor did he think that the Scotch employers generally were so apprehensive of consequences as were their brethren across the Tweed, whose endeavours to contract themselves out of the Act led to such serious rioting and disturbance of the relations existing between them and their workmen; but it was impossible to read its provisions with respect to compensation for injury without feeling that employers and managers alike had cause for uneasiness. Proceeding to discuss the leading provisions of the Act, and pointing out that it was completely silent as to what constituted negligence, Mr. Drinnan argued that to prove negligence he thought clear proof should be required of a man having failed to discharge a known duty, or of having been aware that a dangerous state of things existed, and failed to report or remedy the said danger. Negligence might also be implied on the part of a person in whose department dangerous defects were found to exist, and to be discoverable by a reasonably practicable examination. But in connection with this it should be remembered that differences of opinion might well exist as to what was a dangerous state of things, and if after a rope, roadway, or working place had been examined and reported safe an accident should happen, due to a defect in that which had been declared safe, they were not entitled to assume that there had been negligence on the part of the examiner, or even stupidity. It might be argued that the latter clause of sub-section 4 of section 1 did make employers liable for stupidity on the part of those in authority if workmen sustained injury when acting in obedience to particular instructions; and he was compelled to express the opinion that the workmen and their friends who were responsible for this legislation made a serious mistake by the introduction of this clause, nor would he be astonished to find its operation tending to increase rather than decrease the number of accidents, as it might not improbably deprive them of that skilled direction which employers in their own and the workmen's interest had been accustomed to provide. The amount of

compensation to be awarded seemed to him another blunder, and he indicated a decided opinion that the most fitting tribunal for the disposal of cases arising under the Act was before a judge, or judge, and not before a jury.

### BAROMETRICAL PRESSURE AND COLLIERY EXPLOSIONS

The extraordinarily high readings of the barometer during the past week has revived the endeavour to connect barometric pressure and colliery explosions, and as it is always well to be on the safe side we have pleasure in complying with the request of Mr. Richard C. Rapier, M.I.C.E., that we should print his letter of warning, which will be found in another column. He maintains that the present unparalleled pressure will in all probability be followed by a rapid fall, during which the utmost possible caution will be necessary to prevent explosions, and on Thursday he writes, by way of postscript, that "the barometer has since risen still higher, and the danger of a sudden fall has vastly increased." The theory upon which these explosion predictions are based is exceedingly pretty, but unfortunately is unsupported, if not absolutely refuted, by facts and statistics, so that the warning must be regarded as well meant, although of little utility.

The opposite view of the case is very clearly put by Dr. George F. Burder, F.M.S., of Clifton, who fully justifies the Meteorological Society's inaction in the matter. He remarks that Mr. Rapier considers that warnings should be sent at a time like the present—a time of almost unexampled height and steadiness of the barometer. On the other hand the general opinion is that colliery explosions are especially liable to occur at times of low pressure and rapid fluctuations. It is true Mr. Rapier grounds his apprehensions on the prospect of a fall succeeding to the present abnormal height; but if warnings are to be sent having reference to an indefinite future, as well as to the present and immediate future, there is no time when they may not be sent, and perpetual warnings we know are no warnings at all. Moreover, continues Dr. Burder, "it has yet to be shown that any practical connection exists between barometric changes and colliery explosions. It is easy to maintain on theory that a diminution of pressure must favour the extrication of gas, but an examination of the actual facts lends little support to the idea that these changes constitute a factor of any appreciable importance in the production of explosions. Having observed this matter pretty closely for many years, I venture to express a doubt whether a single instance can be adduced of one of the great barometric storms coinciding with a colliery explosion. It must be remembered, too, that warnings, if they are not useful, are apt to be mischievous, by giving a false sense of security at other times, and diverting attention from more practical methods of safety."

### MINING EXPLOSIONS AND MINING WARNINGS.

The meteorologist, who is at the trouble of giving warnings in the daily and other papers showing atmospheric changes that may affect mining operations, calls our attention to the result of last year's explosions, and we certainly agree with him that the small loss of life last year is matter for congratulation, considering the number of persons who were convicted of offences, some of which were calculated to lead to serious consequences. The warnings appeared to be based on the action of the barometer. High barometric pressure we are told accompanied 22 of the occurrences, and low pressure 15. This to some extent would go to prove what we have often pointed out, that the barometer was not a reliable instrument as regards sudden changes of the atmosphere likely to influence gases in mines. This is to indicate them before they really take place, and not coincident with them. Of the three heaviest explosions last year that at Whitfield and Lilydale took place at the time of highest barometer, and that at the Abram Colliery with a low barometer. As to atmospheric pressure in connection with the explosions of last year, they go to support the theory that the most dangerous time is when the barometer is high. And we are told by Mr. THOMPSON, of Manchester, as the result of an extended period of observation as to explosions, that "the gas in the pits spoke out loud and clear long before any change could be discerned in the mercurial barometer." A careful collation of these atmospheric changes is by no means satisfactory as to their probable cause. The Government Inspector for Derbyshire, Mr. EVANS, gives 16 non-fatal explosions in his district in 1880; and with respect to them he says, "It is curious to note that eight of them occurred whilst the barometer was rising, four whilst it was steady, and four when it was falling." Mr. DOBSON, a high authority, considers that an altogether erroneous value was attached to a low barometer, for the explosion might be deferred until the storm had entirely passed away, and the mercury had regained the height and stability peculiar to settled weather. On the other hand, we have the views of Messrs. SCOTT and GALLOWAY from observations made extending over a period of four years, and they found that during that time 54 per cent. of the explosives occurred from a fall of barometer, 1 per cent. from a rise of thermometer, and 27 per cent. from causes associated from atmospheric influence. The barometer has been looked upon as an instrument for indicating the changing conditions of the atmosphere, and indicating approaching liability to explosives in coal mines. But many of our ablest mining engineers do not consider it to be reliable, for changes take place before they are recorded. One of these gentlemen informs us that it has been found that in whatever degree the mercurial column may move before that movement is perceptible the gas will have made its movement to the equivalent of such movement, and that instead of being an indicator of what is taking place in a mine as regards the exudation of gas the barometer was only an indicator of what had taken place before its movements are perceptible.

But pressure is, of course, the great element for consideration. Gas exists in coal under considerable pressure, and no sooner is the mineral cut into than it liberates a considerable quantity of the gas, whether the barometer is high or low; but if there could be brought to bear on the face of the coal equal to the gas escaping from it there would be no escape at all. It has been held that the aqueous vapour in a mine, small though it may be, and consisting of two atoms of hydrogen and one of oxygen, may play an important part in forming the materials necessary for an explosion. When the air at a low temperature is taken into a mine the aqueous vapour seizes with avidity the coal and goaves, until in a very short time the mixture may be at an explosive point. To bring the gas up to an explosive point there is another important element contributing to it in an atmosphere of low temperature—that is, when temperature is low the aqueous vapour occupies a much less space and the atoms of oxygen are much nearer together, so that, space for space, under such conditions a less amount of gas will bring the mixture to an explosive point. So it is that in winter there is a keener gas, with a top on the flame, that will fire before it is half the length it will show in warmer seasons. Operatives vary a good deal as to the indications shown by the barometer being as quick as could be desired, but it is known that when coal falls or is cut into the gas is liberated, no matter what the state of the barometer may be. But, as a rule, as soon as there is a movement in the barometer, high or low, then the pressure on the space or pores through which the gas escapes is either less or greater, so that the quantity of gas will be determined by the variation. It has generally been considered that explosions took place with a falling barometer, but now it has been ascertained that many of these fatalities have taken place when the barometer was rising. With such interesting data as has been presented to us, in addition to our previous knowledge with respect to atmospheric influences in connection with explosions in mines, there is no doubt that the question of high pressure will receive more attention on the part of meteorologists in connection with its influence upon the existence of gas in mines. It would not, under any circumstances, be desirable to do away with the barometer at our mines, but, at the same time, too much reliance should not be placed upon it, but all known precautions taken to prevent accumulations of gas. This can be most effectually done by sweeping all the working places with copious supplies of fresh air, and so long as this is done there can be no accumulation of gas, and consequently no explosive mixtures. A mine manager should have no reason for consulting the



up. In the first place, the purpose of winding up the affairs of a company in such circumstances was to make an equal ratable distribution of all the assets of the company from the moment of the commencement of the winding up—that was to say, from the date of the presentation of the petition—among all the creditors of the company, without favour or difference to anyone, according to the legal rights of the company and the creditors. All the debts were to be collected and distributed in a beneficial way *pari passu* among the creditors. In fact, from the moment of the commencement of the winding up the company was stopped as an independent going concern. Whatever transactions took place afterwards were really void except by sanction of the Court. It seemed to him that having regard to the consideration that the deliveries of iron by the company subsequent to the commencement of the liquidation gave rise to a debt due to them in a net capacity and interest, such a debt was not liable to a set off, but a debt incurred by the company under its own name. Therefore judgment would be entered for the plaintiffs for 21*l.* 18*s.*, with costs.

## REPORT FROM CORNWALL.

*Jan. 19.*—It is the wisest plan just now to note the course of the tin market and the dependant, or should be dependant, market in shares without attempting to forecast or explain, for assuredly this course which events have taken of late is very hard indeed "to be understood of the people," who are without the very innermost ring. When we wrote last week everything appeared to point in the direction of a drop in the tin standard—stocks increasing, and a persistent effort in certain quarters to get up an Australian scare. That state of things is immediately followed by an advance, and this again is accompanied rather by a fall than a rise, even in our best tin mine shares. Who can understand and account for vagaries such as these? The wisest course is to fall back upon what may be called first principles, and again express our confidence in the future of our mining industry—antipodal threats notwithstanding. The only thing we have really to fear is undue inflation, and of that there are certainly no further signs.

One of the most gratifying events of the week is the meeting at Phoenix United, which is now, thanks mainly to the powers of development of the boring machine, making substantial profits. It was wise of the adventurers, too, to forego for the time the pleasure of a dividend, for their future will be more assured by a slight delay, Phoenix, like most other mines of importance, has had in its day to undergo its share of criticism, but it has now fairly passed that stage, and the resolution to hold the meetings every 16 weeks will cut away the chief ground of critical remark for the future. Phoenix is in a district which just now and of late has sorely needed encouragement, but which in spite of all difficulties and drawbacks we continue to regard as one of the most important mineral areas of the county, and one capable of enormous development.

Camborne and Redruth—as heretofore casually noted—are running a race, in which both will win, for the establishment of Science and Art Schools. Redruth has made good its position by subscribing privately something like 900*l.*, and obtaining a Government grant of 700*l.*, while the site has been practically given by Lord Clinton. Camborne made its formal start on Monday, at a meeting in which we are glad to see Mr. Basset was able to take part, and already the object there may be said to be secured. Mr. Basset gives the existing laboratory the site, and further adds to the funds, and there is no doubt that Camborne will be able to do as much as Redruth alike in the way of subscriptions and of grants. We are very glad to see that there is no idea of working in opposition to the Miners' Association. That society has done a very great work with small means, and if it had not prepared the way so excellently neither the effort at Redruth nor that at Camborne could have been made, if at all, with anything like the present prospects of success. Now there is room for all.

TRADE IN SOUTH WALES.

*Jan. 19.*—Some time since it was reported that Mr. Spence, of Liverpool, had purchased the Pentrych and Melingriffith Iron and Tin-plate Works with the view of forming a company. Last week that gentleman and his friends paid a visit to Pentrych, and thence proceeded in a Taff Vale carriage, drawn by one of their own engines, to Melingriffith. Some important changes will, it is anticipated, be the result of this visit. The new wireworks at Merthyr are being actively proceeded with, and the bridge in connection with them is approaching completion, with the object of opening in the coming spring. The tin-plate trade of South Wales is showing indications of its old form, and the recent rise of from 3s. to 4s. per box will help to put spirit into both masters and men. The advices from Russia as to the tricks played by the Jews there, who buy cheap block plates and a very inferior class of tin plates, and sell them as charcoal plates, is well illustrated by the following letter from three Welshmen on the spot:—

*Botterstraße, Riga, Russia, Jan. 6.*

On the spot:— Motherstrafe, Higgs, Russia, Jan. 6.  
 "FRAN SIN:—I dare say that you know we three brothers came out here to work, and have been here ever since. We have been in the business of teaching the natives. We cannot get our money for what we have done. They want us to teach the natives to tin and wash, and because we refuse they will not pay us our wages. We have commenced law with them, and have not done any work since July 3 last, so you can see that we have gone through some hardships in a strange country. The masters boast here now that there is someone coming from England or Wales to teach natives. It would be well for you to caution our dear friends not to let him be seduced by a people who are not worthy to be called masters. They are suffering so much from hardship that it is our duty to caution our fellow-workers to keep away from such tyrants; they buy from your country wasters and waste plates, and want to sell them here for charcoal; they have also bought a lot of "imperial" for "royals," and they get for them 2*l.* 10*s.* per box. We wish you could inform us where these brands belong to. As soon as we can come to any settlement we shall come home, and we are then sure that we will be able to convince our friends not to be caught in the snare of a Russian bear. We shall be glad to hear from you the state of affairs at home.

The steam coal trade shows no signs of abatement in activity at Cardiff, where 111,264 tons have been shipped during the week, with 2402 tons of patent fuel. The amount of coal, coke, and patent fuel sent away, and the various countries to which it was consigned, will be seen by the following table, with the corresponding amounts in the previous year:—

	1880.	1881.
France.....	1,272,352	1,170,305
Italy.....	570,731	684,175
British possessions.....	634,762	789,997
South America.....	204,407	257,455
Spain.....	270,850	258,384
East Indies, &c.....	631,341	710,520
Brazil.....	185,001	240,274
Egypt.....	444,714	667,557
West Indies.....	134,435	141,040
Turkey.....	17,000	59,008
China.....	83,251	124,457
Germany.....	6,948	4,990
Africa.....	249,890	308,035
Portugal.....	35,594	30,712
Russia.....	139,335	108,750
Austria.....	30,201	8,628
Japan.....	6,392	16,513
United States.....	20,947	63,305
Holland.....	32,645	37,490
Belgium.....	9,130	295
Norway and Sweden.....	40,234	39,523
<b>Totals.....</b>	<b>5,229,658</b>	<b>5,740,972</b>

It will be seen from the above statement that while some European countries have fallen off in their demand, China, the United States, Egypt, and other places have more than made up for the loss.

A Newport accident at the old dock, by which the *Constancia* and *Primus* came into collision in the lock, will prevent the departure of ships at that dock for some time to come, and will entail a loss which is roughly stated at 50,000*l*. A contractor from the North of England has undertaken to make matters right in 14 days, but the *Primus*, which is a complete wreck, will have to be sacrificed. The coal shipments at Newport for the week have amounted to 26,170 tons. At Swansea 23,790 tons of coal have been shipped, but the reports respecting the state of trade there are not very encouraging.

The amount of coal now being sent away by the London and North-Western and Great Western Railways to London is increasing every month. From five Aberdare companies no less than 150,000 tons were sent away during the year 1881, while the Rhondda sent to the same destination some 8000 tons, Nixon's Navigation 46,000 tons, and Ply-



mouth 60,000 tons. Other companies have also sent large quantities, from which returns are not at present obtainable. This week there is great activity at Milford Docks, where Rear-Admiral Sir W. Hewett and other gentlemen are making an inspection of the works. The town is now lighted by electricity, being the second in the kingdom to adopt that method. Milford Haven has been celebrated from the time of Shakespeare as a magnificent sheet of water in which even the Great Eastern can enter at neap tide; and although the late Col. Greville spent 100,000*l.* in trying to utilise it as a port, he found in the end that non-success was the result. Since Sir E. J. Reed, the shrewd member for Cardiff, however, took the matter in hand the fortunes of the place have risen, and American speculators have been buying up the surrounding property, in which they have invested, it is reported, 3,000,000*l.* The object of the speculators in this district is not to rival Liverpool, but merely to tap some of its superabundant traffic by doing the journey to New York in 24 hours less time than from the Northern port. The Irish fishery trade is already very large there, of which the Great Western reaps the benefit. As a coal port it will never injure Cardiff, as it is too far away from the principal coal valleys.

#### TRADE OF THE TYNE AND WEAR.

Jan. 18.—The Coal and Coke Trades continue to improve in this district. All the staple trades carried on here on the Tyne and Wear are indeed looking upwards, with the single exception of chemicals, which still continue in a state far from satisfactory. The make has, however, been considerably reduced, and if this course is persevered in there is little doubt it will be productive of much good. The Iron Shipbuilding Trade continues very brisk. The new yard started some time ago above the Tyne Bridges, near Scotswood, has a good deal of work in hand. Some new works of this kind will also be opened on the Wear shortly. The ironworks, engineering and foundry, share in the general improvement, and new works are in progress of great importance, while old ones that have been closed, in some cases for years, are to be reopened. On the Tyne a company has been formed to be known as the Walker Iron and Steelworks Company, capital 30,000*l.* The objects of the company are to acquire the Walker Rolling Mills. It is intended to manufacture iron and steel in every shape. The site is a most excellent one, and the manufacture of pig-iron and all kinds of finished iron was long carried on there in former times.

The Steam Coal Trade continues good, and there is an increased demand for steam small coal. This is caused by steamers using in many cases small coal instead of large screened. Some vessels have tried this coal on voyages across the Atlantic, and these trials have proved successful, the fire grates being adapted for the purpose. The gas coal trade continues very strong, and large shipments have been made at Tyne Dock, and at other shipping places on the Tyne and Wear. The house coal trade has been fairly good during the week, and prices keep firm for the first-class qualities from Hetton, Lambton, &c. The experiment being tried in the London market by the Marquis of Londonderry in selling coal direct to consumers in the Thames is giving good results, and it is likely that Earl Durham and others will follow the example unless the middlemen will give them better terms. In the coal and coke trades generally the tendency is towards direct transactions between the producer and the consumer, the merchants in many cases being ignored. The demand for coke in the iron producing districts is exceptionally good at present. The firebrick trade is very good at present. Large orders are expected for London and continental markets, and the demand for local consumption is good. The Radcliffe Colliery and Firebrick Works, near Amble, have been purchased by Mr. Peter Haggin, of Gateshead, a well known hemp and wire-rope manufacturer of long standing, and there is no doubt that the works will be extended and improved by him. A good class steam coal is produced at these works, and as excellent seams of fire-clay are found upon the property, a large quantity of fire-bricks and other fire-clay products are made. The coals and fire-bricks, &c., are shipped at the rising port of Amble, where the harbour has been much improved of late years, and the depth of water at the shipping berths has been increased. The coal, fire-bricks, &c., are shipped to the Thames, the Baltic, and other foreign markets.

The wretched strike at Ushan Moor Colliery continues, the work of eviction has so far been completed, but the men remain in the place, having found shelter in tents, and the women and children have found refuge in a school-house and other places. There is no question of prices in the case, the managers and the men appear to have been quarrelling less or more for the past two years, each struggling for the mastery; it is evident that their are faults on both sides, but the men having given notice to quit are legally bound to leave the houses and the works; they are, however, determined to remain and to prevent the working of the colliery by other hands as long as possible, and they are receiving substantial support not only from the funds of the Union, but by voluntary subscriptions raised by the men at various collieries in Durham. Some attempts have been made to get the matters in dispute referred to arbitration, but so far these attempts have failed utterly, and at present there appears to be a prospect of a long struggle; the matter, indeed, seems to be almost hopeless, and the more difficult of settlement as it is hardly possible to define what really are the matters in dispute.

On Friday last many of the lead miners in the upper part of Wear-dale took their bargains at the lead offices. The "bargain day" for the miners in the St. John's Chapel and lower part of the district was held on Saturday. The reopening of those important mines, which at one time were the most important in Great Britain, has given much satisfaction, but there is great discontent amongst the miners respecting the new modes of payment to them introduced of late years by the agents; the new system indeed appears to be an extraordinary one, as the men have to "prospect" or "explore" for lead without receiving any pay until ore is reached, and when this is accomplished they still have the risk of finding only a poor vein. On the old system 10*s.* per week was paid until ore was reached, and on the settling day, which was half-yearly, they received the balance due at so much per ton on the amount of ore raised. There is much agitation on this question, and meeting have been held, the men appear to demand the abolishing of the new system and the dismissal of the agents. Some of those meetings have been attended by Mr. Walter Beaumont, the brother of the lessee of the mines, and he appears to advocate the measures proposed by the miners. The dismissal of the agents is certainly a strong measure, but it is evident that some change is necessary in the mode of having and paying those miners.

The pig-iron trade has been rather quiet during the past week. A very marked decline has taken place in the value of iron at Glasgow, and this has to some extent affected the Cleveland iron market. A fall of 9*d.* per ton has occurred since the quarterly meeting in pig metal for present delivery. Quotations are now about 44*s.* No. 3; warrants, 43*s.* 9*d.* The stock in Messrs. Connal's stores is now 176,114 tons, a decrease of 23 tons on the week. The shipments of pig-iron have been well maintained, the quantity from the Tees last week being 17,940 tons. Favourable reports are to hand from America. The manufactured iron trade continues to improve, prices are well kept up; there is a good demand all round. The steel rail trade is in a most active condition, and the shipments of steel last week were about equal to the deliveries of manufactured iron. Arrangements are in progress for enlarging the output. There is no change in the prices of finished iron. Common bars are 6*l.* 12*s.* 6*d.* to 6*l.* 15*s.*; angles, 6*l.* 15*s.*; ship-plates, 7*l.* 5*s.* Coal and coke very steady.

THE ELECTRIC LIGHT.—Mr. Swan continues to make progress with his light and its application. He is at present fitting up the necessary plant and lamps to light one of the largest mercantile establishments in Newcastle-on-Tyne. On Friday last he delivered a lecture in Newcastle on the subject, and "On the Electrical Storage of Energy." His remarks on the subject were interesting and instructive. He said what is wanted is to have energy so stored that the electric current might be actually waiting to pass, ready to flow at any moment when the channel in which it had to flow was completed. Happily, there is a way of obtaining an electric current in a direct manner by means of stored chemical energy. He explained the mode of doing this, and thirty cells were brought into the room, charged, and the room lighted from the source, and a

very fine effect was produced. The light was pure and perfectly steady. When the power necessary for lighting is produced in this way the light is more steady than when supplied by engine-power. The lecturer noticed the lighting of coal mines, and a portable case of store cells were shown, and safety lamp. The case is carried by a leather handle, and the lamp, which consisted of a clear double glass globe entirely closed and guarded by strong wire, was attached to it by means of a wire conductor of considerable length, so that a miner might hang up the lamp when he was working and place the charged cells a little distance away. The light emitted by the lamp was clear, and much superior in quality to the light of any other safety lamp, and as no air is required for this lamp and the globe is air-tight, this is a safety lamp in the strictest sense of the word. He thought also that it would be an economical lamp. Those store cells might be carried into the mines on trucks with the lamps attached, or each man could carry both the cells and lamp. The lecturer enlarged on proposed modes of producing electricity for lighting railway carriages, private houses, towns, &c., water-power, and, lastly, on the probable substitution of electrical power for steam power.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Jan. 18.—The chief item of discussion in the South Staffordshire trade this week is the issuing of circulars by the Earl of Dudley and Messrs. W. Barrows and Sons, stating that "in the present state of the iron market orders can only be received upon special quotations, or at the prices at the works at date of execution." These circulars have rather upset the calculations which were formed at the quarterly meetings, and have unsettled trade again. That this is so was evident from the meetings of the trade yesterday and to-day in Wolverhampton and Birmingham respectively. The amount of new business which was transacted was not large, either in finished or raw iron. Neither were prices, other than those of marked bars, hardly so strong as at the quarterly meetings. Hoopmakers complained of severe competition from North Staffordshire and Warrington makers. Supplies were abundant at 7*l.* Galvanising sheets were a minimum of 8*l.* 10*s.* for singles, 9*l.* 15*s.* for doubles, and 11*l.* 5*s.* for trebles. Nail rods were 6*l.* 15*s.*, marked bars 7*l.* to 8*l.* 2*s.* 6*d.*, and even 9*l.* Pigs were dull at the figures of last week. Large coal was in steady request, though not in equal proportion to the supply. Gas coke was to be bought at 10*s.* per ton at the works (not delivered). Best South Wales coke was 17*s.* to 18*s.* delivered, ordinary South Wales 16*s.*, and Derbyshire and Wigan 16*s.* 6*d.* to 17*s.* The demand for cokes generally was good. Domestic coal was in tame sale.

The South Staffordshire and East Worcestershire Mining Accident Fund Committee, for the relief of the widows and children of miners killed by pit accidents, at a quarterly sitting in Wolverhampton on Wednesday, had before them 11 applications for relief, the largest number ever known. In three of these the accidents had happened since this month opened. On the basis of 4*l.* for the widow and 10*s.* for each child under 13 years of age, the committee allowed grants to the total of 60*l.*

At a meeting of South Staffordshire and East Worcestershire colliers at Dudley, on Saturday, the men decided to accept the sliding scale proposed by the employers, giving an advance of one penny per day to thick coal men and one halfpenny to thin coal men. This decision removes a difficulty which has been hanging over the trade for two or three weeks past, since the men at one time refused to accept the small alteration made in their favour.

Messrs. Robert Heath and Sons, of Stoke-on-Trent, have advanced the price of their bars 10*s.* per ton. The general price for North Staffordshire "crown" bars is 7*l.* to 7*l.* 5*s.* at date.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

Jan. 19.—At the lead mines in Derbyshire there has been no change of late, and the weather has been most favourable for operations of every kind, and this is saying a good deal, seeing that at many places the work is of an open character. A good many mines, too, are carried on in the most primitive manner, as has been frequently pointed out, for there is no capital at the back of them, and those who carry on appear contented if they earn ordinary wages, such as are paid to miners. To the iron works, both in Derbyshire and Nottinghamshire, a large tonnage of ironstone continues to be imported, whilst the newly opened out fields in the county of Rutland will shortly be tapped. The consequence is that not much of the local stone is now being raised, that from a distance being richer than the ore of the coal measures. The iron trade has opened out fairly, and although there has necessarily been some accumulation of stocks left over from the holidays they have been growing less. Prices, too, are firm, for the iron being superior to that made from the Cleveland stone is in good request for both mill and foundry purposes, and is well appreciated in Staffordshire, Lancashire, and other centres where manufactured iron of a high class is produced. The mills have been working better than during the last year, and the prospects are much brighter, seeing that there is an increasing consumption of merchant iron, which is sure to go on. At the foundries business has become better, and, with the mild weather, a better demand for pipes in particular is almost sure to set in, for the winter months are, of course, the worst for them, seeing that the streets are not fit for opening up for laying. At Dronfield there is as much activity as ever in the make of steel rails, the demand for which is, perhaps, greater than ever it has been. The coal trade has become less active, and several of the largest collieries in Derbyshire have been obliged to shorten time. The business doing with London has been but moderate during the past week, owing to the vast quantity forwarded there immediately after the holidays; which not only filled the depots but crowded the railway sidings with loaded waggons. This has had the effect of reducing prices, which are now 2*s.* per ton less to consumers than they were at the close of last year. There is certainly a bad lock-out for the men who are now asking for an advance of wages, based on the ground that the price of coal at the pits is higher than it was last year. But the fact is, that the best Wallsends, which in October last reached 26*s.* per ton, are now selling at 24*s.* per ton. The best inland or Silkestone coal now sells for as much as the Wallsends, and this is more than might be expected, seeing that no better coal than Silkestone can be had, for household purposes in particular. Steam coal is still in but moderate request so far as exports are concerned; but there has been a tolerably fair enquiry for English fuel for some of our manufacturing districts.

In Sheffield the works in both the heavy and light branches are doing well, and on all sides it is stated that orders have been coming freely to hand since the commencement of the year. The mills at the Atlas and Cyclops Works are running well on steel-faced armour plates, for which there are contracts from our own, the Italian, and other Governments, and these there is no doubt will be largely supplemented by others as the year advances. This branch indeed promises to be one of great importance to the town, absorbing large quantities of both iron and steel, and finding profitable employment for a large number of hands. The other mills are also doing well in ordinary plates, sheets, wire, hoops, &c. In Bessemer a large business continues to be done, there being all the converters in full operation, so that there are considerable importations of hematite pig. Some of the German steel rail makers have taken contracts below us for continental delivery, and, notwithstanding the freight, charge much lower than they do to the companies close to them at home.

Railway material of every description, including tyres, axles, springs, and wheels, are also in good request. Makers of crucible are busier than they have been, for a large quantity is now being used for purposes for which iron was formerly the material, but steel is fast pushing the other metal on one side, and will do so to a still greater extent as the furnaces get closer together. Table and other knives, as well as other articles coming under the head of cutlery, are in steady demand, and the various works well employed. Some few orders have been booked from America, and our own markets are also looking up as regards general hardware, and houses engaged in the production of light agricultural and horticultural implements

have become much busier than they were, and the same may be said as regards makers of sheep shears. File and saw makers are now kept well going, and there is more activity at the engine and machine works.

In South Yorkshire meetings have been held by the miners for the enforcement of a 10 per cent. increase of wages; but, seeing that coal has recently come down in price, there is no doubt but the agitation will be given up, for the men do not appear to be very enthusiastic in the matter, seeing that they have been able to make full time, and that the Association is not in a position to support a strike. The house coal trade is much less active than it has been, and the business doing with the Metropolis is moderate to what it was at the close of the year. In steam coal a fair amount, considering the time of year, has been sent away for shipment, and little is done by railway for district consignments, as coal has been sent away rather freely to meet contracts. Coke continues in good request, and at many places is fast superseding the Durham, which has long held the sway for the smelting of iron.

#### REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Jan. 19.—We are sorry to notice that the Yron Colliery, near Wrexham, is in liquidation. It is an end we certainly had not anticipated for what has been for so long a good colliery. On Saturday last the manager of the Black Park Colliery, Chirk, was presented with an address and a watch and guard on the occasion of his leaving his post as manager of the colliery, which he has held for more than eight years. The address expressed admiration for the fairness in which Mr. Henly had always acted, and attributed the freedom from accidents which has existed at the colliery during his management to the strictness and discipline he enforced in his control of the colliery. A company is being formed under the title of the Ceiriog Granite Company, for the purpose of working some extensive granite quarries in the Ceiriog Valley, above Chirk, Denbighshire. The situation of the quarries and the extent and quality of the stone is certainly all that can be required; but why the greenstone which lies at the summit of the Llandeilo beds of Wales should be called granite passes our comprehension. The whole of the granite to be found among the rocks of Wales would not be sufficient to form a luncheon for the directors of the Ceiriog Granite Company. However, we sincerely wish them success in the manufacture of paving sets and macadam, and in the other objects for which the company is formed.

As an example of the success which may attend small lead mines we may mention that the Tan-yr-allt Mine, near Talybont, Cardiganshire, employing only twelve men, sold last month 20 tons of ore, and during this month 11 tons. At the mines on the opposite side of the valley to Tan-yr-allt—the Erglodd United Lead Mines—the company have just commenced a deep adit level, which will unwater the old workings as well as prove in depth some lodes which on the surface present a very satisfactory appearance. In this district work is generally speaking plentiful.

The Liverpool Corporation are advertising for 250 more men, and the Bala and Festiniog Railway are about to erect their station buildings, and to convert and enlarge the Blaenau and Festiniog Railway to the gauge of 4 ft. 8½ in. At Wrexham, on Monday, the West Miners Mining Company (Limited) and their manager were prosecuted, by instruction of the Home Secretary, for infringing the provisions of the Metalliferous Mines Act by allowing persons who worked in their mine to use ladders in perfectly upright positions in the shaft used also for drawing lead out, without any proper casing of the division. The offence, extending since June last, was admitted; but on the understanding that the shaft would be closed a mitigated penalty of only four guineas was inflicted.

#### ASBESTOS, AND ITS APPLICATION.

Reference was made in the *Mining Journal* of Jan. 7 to the extensive application now being made of asbestos as a fire-resisting material, and on Saturday last a series of demonstrations were given by the United Asbestos Company, at the Crystal Palace, in the presence of the Lord Mayor, Capt. Shaw, and a distinguished assemblage of scientific and other gentlemen and ladies, which left no doubt as to the complete success of the company's asbestos paint, whether applied to wood or textile material, to resist fire. Into fiercely burning fires, consisting of about three cubic feet of solid incandescent fuel, pieces of joists several feet in length, some unprotected and some coated with the asbestos paint, were simultaneously thrown, and the difference was very marked—whilst the unprotected was rapidly consumed the painted pieces were comparatively uninjured, and in no case flamed, even when they had been so long subjected to the action of the fire that the surfaces within the paint were thoroughly charred. But by far the most striking experiment was that with two model theatres precisely similarly constructed—woodwork, curtains, &c.—the only difference being that the one was painted with the fireproof asbestos paint, whilst the other was unprotected. About a cartload of carpenter's shavings was placed under and within each structure, and flame was simultaneously applied. The unprotected theatre was speedily in full blaze, and in a short time was altogether unrecognisable in form, though burning brilliantly in a large conical heap. The protected theatre, on the other hand, passed through the ordeal admirably—no part of the woodwork shifted, and even the curtains refused to flame, although bundle after bundle of shavings were hurled into the structure and consumed.

At the end of the experiment the asbestos painted theatre was carefully examined. On the side nearest the unprotected model the heat has been so great that the asbestos paint was blistered, yet not an inch had flaked off, and the wood was intact. Nor were the uprights and roof more injured, and the curtain maintained its position, although when broken down it was decidedly brittle from the great heat to which it had been subjected. There can be no question as to the severity of the test, and it is indeed improbable that in use the paint would ever be required to resist the flame for so long a period, as it must be remembered that when the wood is protected by the asbestos paint the spread of flame is arrested, and the gradual augmentation of heat observable under ordinary circumstances is avoided. The importance of discouraging the spread of flame cannot be over-estimated, for in extinguishing a fire or in preventing a panic in the case of large assemblies the knowledge that nothing serious is probable for at least a quarter of an hour would usually prevent loss of life altogether.

The admirable manner in which the curtain in the painted theatre withstood the action of the fire could not but suggest to colliery engineers the enormous utility of such a material for brattice cloth, especially as its cheapness and durability are as great as its fire-resisting properties. It is remarked that when required for such purposes, the asbestos paint can be made practically "fireproof." Wood or canvas coated with it will not take fire unless subjected to white heat. An ordinary flame will not ignite the wood or canvas. As a fireproof paint, therefore, it is invaluable for all purposes, but especially for joists, rafters, beams, wooden and other structures or parts thereof which quickly carry the flames. Where the timber used in the construction is well coated, the building becomes practically fireproof. Its durability has been proved by the most severe tests, chemically and otherwise. Its insolubility and power to resist the action of gases, acids, and weather, and the fumes of sulphuretted hydrogen and ammonia arising from steam and smoke, renders it most valuable for pitwork bridges, especially railway bridges, girder-work, roof and stations, railway locomotives, carriages and waggons, and for general structural purposes. As regards price, it compares favourably with that of ordinary paints, whilst, measure for measure, it weighs 22½ per cent. lighter; its body is better, and covering powers greater than ordinary paints. It flows readily, dries quickly, and is easily applied, and is thus placed within the reach of all. There can be no doubt that the company has a large field for profitable enterprise before them, and that its profits will result from conferring a real benefit on the community.

TRETOIL.—The works at this mine are progressing satisfactorily, and a large amount of interest is being taken in it progress by



people in the locality, as it is looked upon as the pioneer mine of what may become a very important district.

#### EAST WHEAL ROSE (LIMITED).

Old Jersey, Jan. 17.—In forwarding the special monthly report for December from the agents of the mines I am desired by my directors to give you the following additional information upon the progress of the works, which will be of interest to you. It will be gratifying to the shareholders to learn from the report of Capt. Skewis and Doidge that the production of silver-lead ore from the stopes on Innes' and Middleton's lode has commenced, the winding engine having been fixed to draw the stuff. The 90-in. engine at Penrose's shaft is of itself competent to drain the mine to a very considerable depth, and every effort is being made to get it to work as early as possible. Rapid progress is also being made in the erection of a 100-in. engine-house at the north mine. The engine itself is on the mine, and being prepared for erection. The loadings for the permanent engine are finished, and the captain and engine ready for delivery; this, once in position, will be available for fixing all the pitwork in Penrose's shaft. The company's engineers, Messrs. Loam and Son, are taking care that the thing is being built and secured in a substantial manner, suitable for the powerful machinery in process of erection. To those shareholders who are not aware of the enormous amount of work to be done before the mines of the extent of East Wheal Rose can be got to work, such as the erection of the machinery, with its enormous proportions and weight of materials, requiring foundations and houses for the most substantial character, the period of preparation may have seemed long. A visit to the mines, however, will show what has been done in these respects, and the absolute necessity for having everything completed in the most substantial manner possible, the aim of the directors being to endeavour to avoid all chances of accident to the machinery when once in motion, from any want of care either in its manufacture or erection. The value of the verification of the possession of the well-known Middleton lode, to an extent of about half-a-mile on its course in new or virgin ground, and capable of being worked by means of the shafts and adits already in existence cannot, in the opinion of the board, be overestimated. —P. HUTLEY, Secretary.

OLD WHEAL ROSE (LIMITED).—Dec. 31.—North Wheal Rose: The side walls of 100-in. engine house are being completed and roof for same is being put on, also ground levelled and foundation got ready for the building of boiler-house, stack, &c., at the early part of another week. Penrose's Inne's Lode: There has been no change of importance since our last report, the lode being of the same value—No. 1 stope is worth for lead and blende 30 cwt. per fathom; No. 2 stope is worth for lead and blende 10 cwt. per fathom. Penrose's shaftmen are engaged in clearing west on this lode, in order to open up another stope. Middleton's Lode: At No. 1, on the eastern part, the wide 2 ft. wide, conical lead and sulphur-mundic, accompanied with a good flux, altogether of a very promising appearance for the production of silver-lead ore. The little winding engine is fixed, and shall commence drawing stuff from above-named lodes on Monday next. The erection of the 90-in. engine is being proceeded with, and every effort will be made to get same to work as early as possible. The loading for steam capstan will be finished in two days from this date. Ground is being taken out and walls built for the erection of Green's dressing machinery. This will be pushed forward with all possible dispatch. —WILLIAM SKEWIS, THOMAS DOIDGE.

#### OLD SHEPHERDS MINES (LIMITED).

Old Jersey, Jan. 17.—Some splendid stones of lead have been found since the last monthly report in clearing the adit west of western shaft on course of the lode. This, as the agent remarks in his report, which was published in the mining papers of Dec. 31, is very cheering for the future of the mine, seeing that we have 400 fathoms of unbroken ground before us in the line of the lode.

The progress with the 30-inch engine is proceeding in a very satisfactory manner. The lifting gear is delivered, and the beam is being erected. The connections are delivered. The boilers are also delivered. At the North Mine the foundation of the engine-house is cleared at the new shaft. —F. HUTLEY, Secretary.

OLD SHEPHERDS MINES (LIMITED).—Jan. 17: North Mine: In clearing the adit level west on the course of the lode we find it still full of stuff, and we have not reached the end, but as soon as we do we hope to put the men to break ore from the back, where we anticipate the lode is standing. The old engine-shaft is now completed to the adit, to the surface, and we are pleased to say we have dropped a line 45 fathoms in the water, which shows it is clear to this depth. We are still pushing on the sinking of the new engine-shaft by a full staff of men, where better progress is being made. South Mine: We are making fair progress clearing the main adit south by a full force of men, and calculate we have passed the old engine-shaft, having seen a small level driven off from the main adit, which we think goes into the said shaft, but if possible we shall avoid opening it for the present, as we are anxious to reach Harvey's engine-shaft as soon as possible, and to facilitate this we have six men engaged in securing the next adit shaft south. Harvey's shaftmen having been engaged in driving the level before named have effected a communication with the main adit. The engineers have the main bob up to the wall, also the girder in its place. In consequence of the rough weather the masons are still unable to work on the stack, but have been employed on the lower buildings, boiler-house, &c.—Western Ground: We have not been able to make much progress since our last report, owing principally to a breakage of the crank of the engine; this is now being repaired, together with other necessary work, and a larger lift of pumps having been placed in the shaft we shall be in a better position in a few days than we have been before. —RICHARD NANCARROW, JAMES NANCARROW.

#### TREASAVAN MINES (LIMITED).

Old Jersey, Jan. 17.—As the shareholders are aware, the existing shafts and adits, which cost the former proprietors so much capital, are available for the company's purposes, and it only remains to complete the necessary machinery in order to commence to bring tinstuff to the surface and prepare it for sale. The 90-in. engine is rapidly progressing towards completion. The beam, cylinder, piston, and lever are fixed, and the engine, except a few minor parts, is delivered at the mine. Two of the boilers out of the four are delivered and are being fixed, and the bed of the flues will quickly be finished. At Wheal Rose a shaft within a few days tinstuff will be brought to surface, and sales of tin may soon be looked for; a consideration of great importance, having regard to the present price of that metal.

TREASAVAN MINES (LIMITED).—Dec. 21: Harvey's shaftmen are preparing to drop the pitwork in the shaft, and will soon be waiting for it. There are three men engaged in driving Williams' shaft; here we have a horse-whim erected, and shall soon begin to draw the stuff at and above the shallow adit. I have again put two men to clear the deep adit west of Trevelian shaft; this is a very important work, and the shaft will be ready to receive the cylinder of the 90-in. engine, and making a road for bringing in the boilers purchased at Pendarves United. I expect them to be on the mines early next week. I am pushing on the work at Wheal Boys with all possible speed. The horses are being made to carry the cage, and the driving-wheels are ordered; when brought on the mine we shall be ready to work in about a fortnight, providing the reversing gear is sent at the same time. The masons are busy putting on the slate roof to the dry, and building the bed for the try tube, and will, I hope, be finished in a few days, when they will proceed to erect a stand for Blake's crusher and the engine to work it. The line of tram-road for conveying the tinstuff to the crusher will be levelled in a few days, when we shall begin at once to lay down the runners and rails. The carpenters are now making shears for Harvey's engine-shaft and wood work in connection with the 90-inch engine, and are also repairing the cottage which has been purchased on the mine. They will in a short time commence the dressing plant, which I am anxious should be got on with, with as little delay as possible. —JOSIAH JAMES.

#### MOUNTS BAY CONSOLS (LIMITED).

Old Jersey, Jan. 17.—Gentlemen: It will be seen that steady mining is going on at Trebarrah, that another small parcel of tin has been sold, and that copper ore is being dressed, and will be ready for sale during the present month. At Sydney Cove, in addition to the full report of Capt. Argall, the shareholders will be glad to learn that the engine is nearly completed, and that it is expected to be started in a few weeks. At Pembro the cylinders, engine-bed, and condensing work are fixed, and with the machinery generally good progress is being made, although the directors feel they have cause of complaint at the late delivery of the foundry work. —F. HUTLEY, Secretary.

MOUNTS BAY CONSOLS (LIMITED).—Dec. 31: During the past month we have sunk the engine-shaft 11 fms. 4 ft.; this shaft is now 11 fms. 3 ft. below the 50 fms. level, sinking by nine men, at 20 ft. per fathom; lode 6 ft. wide, producing stones of blende and copper ore. The country around the lode is changing, and looking more favourable for mineral. The 50 fms. level and cross-cut west of engine-shaft has been driven 4 fms. 5 ft.; we have reset the driving of the cross-cut north to six men, at 5 ft. per fathom. The 40 ft. west of engine-shaft has been driven 4 fms. 3 ft.; lode 4 ft. wide, producing arsenical and sulphuric pyrites, with spots of yellow copper ore and blende. We are nearly out of the influence of the flood, and as we near a cross-course ahead of us we have every reason to hope for a great improvement at this point; we reset this level to two men, at 3 ft. per fathom. The 30 fms. west of engine-shaft, has been sunk during the past month 4 fms. 1 ft.; lode 3 ft. wide, producing white sparose iron and arsenical and sulphur pyrites; we have reset this winze to six men, at 3 ft. per fathom. By the sinking of this winze it will ventilate the 40, and enable us to put on more men and go ahead faster. We are now putting in an air machine and pipes to throw air down the winze. Richard's shaftmen have sunk during the past month 1 fms. 3 ft.; we have now set to put pit at the 62 by six men for the sum of 15 ft., after which we shall commence to drive levels east and west in the bunch of copper already reported on, worth 20 ft. per fathom. The 50 east of Richard's shaft has been driven 1 fms. 7 in., lode 9 in. wide, producing a little blende and arsenical pyrites, reset to two men, at 6 ft. 10 in. per fathom. We have set the driving of the 40 west of Richard's to four men at 3 ft. 15 in. per fathom, lode worth 3 ft. per fathom. In 3 or 4 fms. driving this will hole to our No. 1 stope, which we are obliged to suspend until this is done, which will ventilate the stope and be more economical for working. There are two tribute pitches working at this point; we are dressing a parcel of copper ore, which we hope to sell in the coming month. We have purchased a crusher very cheap, and are daily expecting it on the mine, when we shall at once proceed with its erection; and also putting up some new jiggers for the more economical and better dressing of the copper ores. The machinery throughout the mine is working very well, and yesterday we lit the fire in our new boiler. —Jan. 11: Yesterday the water was in fork at the engine-shaft, and the shaftmen began sinking, and as we near the connecting rock and cross-heads, &c., here we shall be at work in a few days after. The captain, shears, &c., are all placed in position, the main rod is fixed in engine-shaft, and have commenced to drop the lift. We have made a lead from 250 to 300 fms. long from Pengersick to bring in good water to the engine for condensing. —Pembro,

The masons have finished the stack and boiler house walls, and are now building the boiler. The foundation has been got out for the whim-engine, and we now await the engine to mark out the ground for the masons. The 10-ton boiler has been brought on the mine, and the engineers are busy fixing the engine, the carpenters, smiths, and miners are pushing forward the surface operations, and the shaftmen are cutting and preparing ground for the lifts and taking up water. We had hoped to have seen the Sydney Cove engine at work by this time, and the Pembro more forward, but the delay has been caused as stated before by the foundry, over which we have no control. —WILLIAM ARGALL, JOHN JAMES, JOHN ROWE.

#### VINCENT TIN MINE.

A discovery of a most important character has been made in this mine. A lode 10 ft. wide has been cut close to its junction with the Main Vincent lode, which latter has opened out to 4 ft. wide in the 30 in the direction of the junction, as will be seen in the sub-joined letter from "A Shareholder." He says—On Jan. 13 I paid a visit to the Vincent Tin Mine. On my arrival, early in the morning, I was met by Captain Spry, who informed me of the discovery he had made relative to the junction of the Main Vincent lode and the Streamer's lode, and informed me that the Vincent lode is over 4 ft. wide, and the Streamer's lode 10 ft. wide, with only 4 fathoms of ground in between the two; he also said that they were now in very good tin at the end of the main drivings in the 30. I then proceeded, accompanied by the captain, to the south-west corner of the sett, where the 16 fathom shaft has been sunk on the Horseboro' lode. I examined an open cutting, or rather ganniss, west of Horseboro' shaft, and on dialing, find the Horseboro' lode, on which drivings have been extended 18 fathoms, to be running slightly to the north of west, and in another ganniss, presumed to be on a lode called Big Ben, the lode runs a little to the south of west; thus the two lodes will come together a short distance ahead of present drivings. These facts, pointed out by the captain, give a value to this shallow portion of the mine which hitherto had not been attached to it. To prove which value the captain takes me back to the east of the shaft, where he sunk a pit, and at 8 ft. has come upon the back of Big Ben. The lode here is very strong, and containing fine stones of tin, even at this shallow depth. Samples were taken and marked No. 1. I then left this portion of the mine, and proceeded to a point well in the centre of the sett, and 230 fathoms due west from the main Vincent engine shaft, and go down into the costean pits 18 ft. to 20 ft. from surface, where the recent discovery, to examine which was the object of my visit, is most clearly to be seen; the streamers lode is here 10 ft. wide, and south of it the Main Vincent lode, 4 ft. wide, with only 4 fathoms of ground in between.

This Streamer's lode was known to exist, but hitherto little thought of, as forming a junction with the Main Vincent lode, as at the engine-shaft it was known to be 24 fathoms from the Vincent, having been cut into many years ago by the same Captain Spry, who was then working underground, and they were driven back by the water, in consequence of the workings being so near to the surface and the stream, but this difficulty is now at an end, as the present discovery is upon higher ground and considerably south of the stream. A shaft should be immediately sunk at this point to cut these two lodes in depth, and as the tin is fast making westward from the shaft, and eastward from Hendra Down, at this point there is a strong probability that a very large deposit of tin will be met with at no great depth, the tin shown in both these lodes at surface being in good quantity. I then proceeded up Hendra Down, where costeaning has also been done by Captain Spry, to the west of the two adit levels above the old counting-house, and I find three lodes all north of the Streamer's lode, one of them being as wide as 12 ft., and the other two about 4 ft. Thus we have seven distinct tin-bearing lodes running through our sett, which is a mile-and-a-quarter in length from east to west on the run of the lodes.

The seven lodes are thus particularised:—The Horseboro' lode and Big Ben, coming together; the Main Vincent lode and the Streamers lode, also coming together, and further north the three lodes on Hendra Down. The shafts that have been sunk are only two. The main one, on Vincent lode, is sunk a depth of 30 fathoms, and driven west 60 fathoms in the 30. The other is the Horseboro' shaft, sunk 16 fms. on the lode of the same name, and driven west 18 fms. I then descended the Vincent main shaft to the 30, and went down No. 2 winze, where the lode is fully 4 ft. 6 in. wide, very strong, and showing a lot of tin all through the lode, and tin capel similar to that in Great Phoenix on the footwall. The lode here underlies south 24 ft. in a fathom. I then go in 60 fms. to the end of the 30, the lode being traced the whole distance westwards from the shaft. The width of the lode in the end is fully 4 ft. I break tin here, which is carried all through the lode; also the tin capel, as previously mentioned, comes in again here on the footwall. The lode here seems to be making a finer class of tin as it goes westward; this level should be extended at the same time that the shaft is sunk at the junction, and there will then be from 175 to 200 fms. of stopping or reserve ground laid open.

In conclusion, I would add that I am convinced that such a tin mining sett as the Vincent is seldom to be met with. The ground being now proved it is merely a question of a very short time with energetic working to place it among the foremost of the tin-producing mines of Cornwall. The present engine has been sufficient to drain the mine during the recent floods. There are 32 heads of stamps, 16 of which were at work on the day of my visit.

#### QUARTZ HILL CONSOLIDATED GOLD MINING COMPANY.

[TO THE EDITOR OF THE MINING JOURNAL.]

SIR,—The directors of the Quartz Hill Mining Company feel that it would be impossible without occupying a very large space to deny categorically, or to correct, every one of the many mis-statements which have been circulated respecting this company's property. Referring however to the letter of "X. X." which appeared in the Journal of Jan. 7, the directors desire me to say that the writer of that letter evidently misapprehends the facts, and consequently has been led into gross misrepresentation. The property of the company consists of a total of 3690 linear feet of veins, and it appears from the last report (dated the 24th ultimo) received from Mr. Craven, the mining superintendent, that the directors may reasonably anticipate that there are upwards of 250,000 fathoms of crevice still unworked, and which would be upwards of 90 per cent. of the entire original extent, before the former proprietors had worked any part of it. Your correspondent refers to a company formed some 12 years ago. The directors know nothing of that company, nor of the property held by it. If it be the fact that the property which that company was formed to work is included in the property of this company it must have comprised a comparatively insignificant portion, as the directors are informed that that company's property consisted of 400 feet only. The directors are satisfied that this company possesses a very valuable mining property, and which only requires a reasonable amount of development to place it in a position to ensure an excellent return. In the superintendent's report above referred to he states that the products of mining operations to Dec. 1 amounted to 4997 lb., and that 40 per cent. of such product was obtained in the last two months.

The directors take this opportunity of indignantly repelling an accusation which has been made that in publishing an extract from "Fossett's Colorado" they designedly omitted the words—"But the valuable ore has been nearly all worked out." The directors extracted what they published from "Fossett's Colorado" of 1879, the only edition known to them, and which does not contain the words in question. A subsequent edition does, it appears, contain these words; but the context shows that they are applicable to the 650 and 720 feet levels only. The directors cannot understand how any person having the slightest claim to be considered ingenious could adopt such an expedient for the purpose of attempting to damage the company. The concluding paragraph relating to the company's property contained in the edition in which these words appear closes thus—"The mine should hereafter pay handsomely." This paragraph is a little lower down on the same page. Comment appears unnecessary. The directors trust to your sense of justice to insert this letter in your next issue.

EDWARD JENKINS, Secretary.

P.S. I enclose a copy of Mr. Ernest Le Neve Foster's report ob-

tained before the directors proceeded with the purchase of the property.—London, Jan. 20.

EXPLOSIONS IN COAL MINES.—A meeting for the purpose of delivering addresses to the miners employed at the collieries in the district on the causes of explosions in coal mines was held on Monday at Dukinfield. Mr. A. C. Boyd occupied the chair, and there was a good attendance of colliers. Mr. John Higson, of Manchester, after impressing upon the meeting the absolute necessity of every one engaged in mining, whether collier or official, endeavouring to keep pace with the times, said it seemed to him that at the present day there was a struggle going on in mining matters between the ventilating power they had now in their mines and their methods of dealing with it so far as lighting was concerned, and that the improvements in lighting had not kept pace with the increased amount of ventilation which was now sent through the workings. We certainly appeared to have got to a point with regard to the ventilation of our collieries when the ventilation had got ahead of our methods of dealing with it. Every year our collieries were becoming more extensive and more complicated undertakings. We were now sinking to depths of 1000 yards and the underground workings were being carried over vastly wider areas. Frequently the main object in view was to keep the men safe and make the place pay, and there was a tendency to forget that there was something beyond all this. The exigencies of mining required in the present day a thoroughly scientific as well as a practical training. In conclusion Mr. Higson pointed to the urgent necessity with the present system of ventilation of a thoroughly safe lamp being introduced into the mines. Mr. W. E. Teale followed with an address devoted to the question of lighting as one source from which explosions arose, and gave a description of the protector Muesler lamp as one which had secured immunity from explosions in mines where it had come in contact with large quantities of gas. Experiments having been made with various lamps showing the unreliability of the Davy, Stephenson, and Clanny types, the proceedings closed with votes of thanks to the gentlemen who had delivered addresses.

POTOSI.—Jan. 7: 475 to 500 ozs. of gold on hand for first fortnight: 350 tons to 375 tons of quartz milled yielding 1½ ozs. to the ton: 15 days full work, with (only) 20 stamps.

ENGLISH-AUSTRALIAN GOLD.—Mark Pollard, Fryerstown, Dec. 5: In the 360 ft. level we have been driving south, and also stopping the back drive for mullock room; the quartz is not quite so thick as it was. We have seen a little gold, but very fine. I think it is very poor all through. This drive is 85 ft. from the rise; we have about 90 ft. further to drive to No. 3 rise, that is connected with the 320 ft. level. The 290 ft. level has been extended east 12 ft. during the past month, through a hard sandstone country. I think we are through the hard sandstone, as we have a face of slate; we have not cut through it as yet. We have four men in this drive. I have connected the 240 ft. level with No. 2 rise, and have commenced to stop the eastern side of the drive with quartz 2½ ft. thick, but poor; this is a flat leader. We have about 15 ft. of ground to work from the western side of this block to the eastern side of the quartz or foot-wall of this lode. We have extended the 140 ft. level north of cross cut 17 ft., with 2½ ft. of stone and rising, going north a little, and the stone dipping west, which, I think, will make into the western leaders or block of stone. We have done any work on the western block of stone as yet. In the 150 ft. level we have completed the cut the south drive, and also done a little work on the face of the drive, but no quartz in the drive just now. We shall have to continue this drive for the stopes above. This drive is 107 ft. from the curve in the end of the cross-cut.

Have had two men engaged cleaning up and sinking shaft 90 ft. west of prospecting shaft to back of stopes at this level, the same being 90 ft. deep; have 7 ft. more to sink to go through to the stopes, which will be an advantage for sending timber to the stopes instead of the prospecting shaft. All the stopes in your mine are just the same as last month: 530 tons of stone have passed through the battery since we last cleaned up.—Western Shaft: In the north drive the stone on the footwall is not so well defined as on the western wall, but the ground is not so hard. This drive has been driven 25 ft. altogether; quartz intersected with slate and sandstone country. I am putting up a rise at the south of the cross-cut, but no quartz in the rise as yet. There is very good ground in the rise—black slate with sandstone bars; rise up 10 ft.: 5½ tons of tailings have been treated to ascertain the actual amount of gold unavoidably carried away in the tailings. The gold obtained from the parcel was only 1 oz. 12 dwts., or about 5½ dwts. per ton of tailings, which is very much below the assay of the Government Inspector. As the value of the gold realised is only about 23s. per ton of tailings, and the financial agent states cost of treating to be 21. 10s. per ton, it is evident that the amount of gold is so small that it would not pay to undertake any operation for treating the tailings on a large scale.

YORKE PENINSULA.—The directors have received advices from the committee of inspection at Adelaide, with report upon the Kurilla Mine to Dec. 6 last. The following are extracts from the report of Thos. and John Anthony:—Kurilla Lode: In the 67, driving east of Hall's shaft, the lode in the end is poor; we have at present stopped it and set the men to prepare for driving a cross-cut south, to cut the south branch, to be driven with the boring machine. There are two parcels of four men each stopping the back of this drive; one stope is yielding 3 tons of 16 per cent. ore, the other 1 ton of 16 per cent. ore per fathom. At the 55 two men are driving east on the south branch, the lode being worth 2 tons of 16 per cent. ore per fathom. Four men are stopping the back of this level, yielding about 2 tons of 17 per cent. ore per fathom. Three men are working on tribute at the junction of the main lode and north branch at 9s. tribute. At the 45 two men are driving east on the south branch, the lode being worth 2 tons of 17 per cent. ore per fathom. At the 35 four men are driving east, the lode being poor at present. The 25, now in new section 398, is being driven east by four men and two wheelers at 6s. 15s. per fathom; the lode contains several small veins of ore, but not enough to give. Another 10 or 12 fms. driving should bring this level up under the ore passed through in the 15. The 15 is driving east on the intermediate branch in the Kurilla section, by two men; the lode in the end is poor, but the drive has passed through about 4 fms. of good ore. Three pitches are being worked in the back of this drive, at an average of 7s. 5d. tribute. The 10, in new section 398, has been cleared and secured, and this level east of No. 1 cross-cut, about 22 fms. west of Gurner's shaft; two men are driving this level, yielding 1 ton of 16 per cent. ore per fathom. Two men are driving looking very promising. Two more men are driving east of No. 2 cross-cut, about 4 fms. west of Gurner's, to prove the lode north of Gurner's shaft. Morphet's: At the 55, east of Morphet's shaft, four men are driving on a lode worth nearly 3 tons of 18 per cent. ore per fathom. At the 55 west four men are driving, the lode being at present poor. The stopes in the backs of these drives are still being worked by 18 men, the yield of ore being about 4 tons per fathom. The winze below the 43 is sinking by four men; lode worth 2 tons of ore per fathom. Six tributers are working in the upper levels, at an average of 9s. 3d. in 12. The tunnel at the 67, driving from Kurilla lode to Morphet's, is now in 13½ fms., the borer doing fair work, though the jointly nature of the ground barely admits of such fast driving as we have done.—Ore Dressing: The eccentric discs are fixed on the jigger, which is now doing good work. Should no accident intervene, shall be able to carry out our promise of 300 tons per month from the time we began to ship (end of July last) to the end of the year.—Ore Returns: There had been dispatched from the mine for shipment 195 tons of about 17 per cent., and there remained on hand on Dec. 1 1450 tons of about 16 per cent., besides the low-class ores.

The following applications have been made to the Stock Exchange Committee:—Wynand District Gold Mining Company (Limited) shares—setting day; Hawkes Hill Consolidated Gold Mining Company shares—setting day and quotation; Newport Abercrom Black Vein Steam Coal Company (Limited) 7500 100. Six per cent. Preference Shares—quotation.

Messrs. Witting Brothers, of 64, Cannon-street, have been appointed sole London agents for the Westfälische Union Mining, Iron, and Wire Company (Limited).

#### LEAD ORES.

Date. Mines. Tons. Price per ton. Purchasers.  
Jan. 13—Church Burn ..... 20 ..... £ 8 12 6 ..... Walton and Co.  
HORNACHOS (Silver-Lead).—This company sold on Jan. 16 to Messrs. Nevill, Druce, and Co., 22 tons 18 cwt. of silver-lead ore, realising 574d. 9s. 3d.

#### COPPER ORES.

Sampled Jan. 4, and sold at Swansea, Jan. 17.  
Mines. Tons. Produce. Price. Mines. Tons. Produce. Price.  
Betts Cove ..... 96 ..... 7½ ..... £5 0 6 N. Quebrada 71 ..... 10½ ..... £6 11 6  
ditto ..... 96 ..... 7½ ..... 5 1 0 Garonne Ore 92 ..... 8½ ..... 5 14 6  
ditto ..... 96 ..... 7½ ..... 5 1 0 Copper Precip. 16 ..... 52½ ..... 34 10 6  
ditto ..... 96 ..... 7½ ..... 5 0 0 ditto ..... 5 ..... 49½ ..... 33 10 6  
Berehaven ..... 80 ..... 9½ ..... 6 12 0 ditto ..... 1 ..... 6 ..... 3 0 0  
ditto ..... 71 ..... 9½ ..... 3 18 6 Cronchane ..... 3 ..... 51½ ..... 30 18 6  
ditto ..... 71 ..... 6½ ..... 3 12 6 ditto ..... 2 ..... 18½ ..... 19 8  
N. Quebrada 72 ..... 10½ ..... 6 11 6 Tigrony Pre. 5 ..... 26 ..... 17 2 6

#### TOTAL PRODUCE.

Betts Cove Ore ..... 480 ..... £2412 0 0 Copper Precipit. 22 ..... £ 723 0 6  
Berehaven Ore ..... 222 ..... 1066 1 0 Cronchane Precip. 6 ..... 122 12 6  
New Quebrada Ore 143 ..... 940 4 6 Tigrony ..... 5 ..... 55 12 6  
Garonne Ore ..... 92 ..... 526 14 9

#### COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names. Tons. Amount.  
P. Grenfell and Sons ..... 12 ..... £ 211 5 0  
Williams, Foster, and Co. ..... 235 ..... 1917 12 6  
Landore Copper Company ..... 359½ ..... 1891 0 9  
Cwmavon Estate and Works Company ..... 363½ ..... 1856 6 9  
Total ..... 970 ..... £ 5,876 5 0

NO SALE Jan. 31.

#### TOTALS AND AVERAGES.

21 cwt. Produce. Price. Per unit. Standard.  
Whole sale ..... 970 ..... 9½ ..... £ 2 12 0 ..... 12s. 9d. ..... £ 28 6 5



## WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS, STOCK AND SHARE DEALERS &c  
1, ST MICHAEL'S ALLEY, CORNHILL, LONDON.

Much misconception has arisen in regard to the clause in the Statutes Amendment Act which makes a party apparently liable for two years after he has transferred his shares in a Cost-book mine. The clause refers to companies wound-up in Court, and is in reality a protection to bona fide shareholders, inasmuch as it refuses to acknowledge transfers made to men of straw for the purpose of avoiding just liabilities and calls. Under a winding-up in Court lists are made up of "A" and "B" contributories—"A" present and "B" past, the latter being transferors to "A." But the calls are only made on the "A," or those in the first list, and in no instance have we ever known calls to be made upon the "B" list. But, suppose for the sake of argument, that in the "A" list there appeared the name of "John Substitute," and after proper enquiry he was found to be a man of straw who could not pay, and to whom a good man in the "B" list had transferred his interest to avoid responsibility, or throw it upon the other "A's," in this case the said transferor would be called upon and made to pay, and it would only serve him right. The 35th clause of the Act makes a transfer for the mere purpose of getting rid of further liability to a person without any apparent pecuniary ability to pay the reasonable expenses of working a mine, or to a servant or domestic (for the same purpose)—a fraudulent transfer, and not to be recognised in a winding-up; and this we maintain is a great protection to the bona fide holders. By the 17th and 18th section any shares can be forfeited for non-payment of calls, and become, like relinquished shares, the property of the company; and may be sold at any time, and any shareholder may purchase them. The 11th section gives a Cost-book Company power to make calls for estimated expenses for three months after the date of a meeting; but the usual thing is to make up liabilities to the meeting, and a call to meet them.

The Prince of Wales is held under lease for 21 years from H.R.H. the Prince of Wales, and is to the West of Drakewalls. The set also contains part of the Old Harrowbarrow, and has returned nearly 20000l. worth of silver. Under the old shareholders, who worked the mine to the 90 by means of a small engine, which was then overpowered by the water, about 50,000l. worth of copper ores were sold, and some thousands paid in dividends. We were at that time large shareholders, as we have been ever since. The old shareholders, as a body, when a large outlay was required for new machinery, declined to erect it, and for several months tried the silver and other lodes at shallow depths. This resulting in loss, the company was wound-up. We then purchased the mine as a going concern, formed the present company in 12,000 shares of 7s. 6d. each, and offered all the shares at cost price *pro rata* to the old shareholders, nearly all of whom joined us. To the present time the outlay has been 13s. per share, or 7800l. The last call, made in November, was 1s. 6d. per share, and we hope that not many more will be required. Since the large engine went to work, and during the progress of sinking the shaft to the 102, the mine has sold tin ore for 749l. 5s. 8d.; copper ores, 345l. 19s. 3d. The accounts are always charged up to the days of meetings, and calls made to meet all liabilities.

In the deep adit west at Great West Chiverton the lode is 2 ft. wide, with good stones of lead in it, and looking as though it would further improve.

There are three points to come off in Wheal Crebor; the first is the cutting through the lode at the 130 fathoms level when the shaft reaches that point; the second the cross-cut north at the 108 to cut the "Ding Dong" lode, which from shallow workings is said to have yielded 14,000l.; and again the third in same cross-cut to intersect the "Bridge" lode of Bedford United. This is a fine productive lode in Bedford and ought to make a good show when cut 108 fathoms deep in Crebor. Both these lodes underlay south towards the Great Crebor lode, which underlies north, and these in July last were said to be approaching each other "5 feet in a fathom"; and consequently the cross-cuts towards the lodes would not, it was then said, be very extensive; but how much longer it will take to cut them we are not in a position to say at present. No doubt the death of the largest holder of shares has affected the price on the market, but it is the mine that we must look to.

The agent expects the next sampling to be over 450 tons of good quality ore.

Prince of Wales sold on Thursday 2 tons 7 cwt. of tin for 63l. per ton—148l. 6s. 7d.

D'Eresby Mountain sold this week 25 tons of lead ore for 9l. 15s. per ton.

The principal object at Langford at present is the erection of machinery, all of which, as we stated weeks ago, has been purchased and paid for. So far as carried out the experiments on the poor ores are quite successful, and we hope in a few days to append some result.

## SILVER MEDALS AWARDED AT CORNWALL POLYTECHNIC 1872 AND 1876.

THE WELL-KNOWN PATENT SELF-ACTING ORE DRESSING MACHINERY, as in operation at most of the large Mines in the Kingdom and Abroad, is now supplied solely by THE PATENTEE AND MANUFACTURER, MR. GEORGE GREEN, Mining Engineer, AT GREATLY REDUCED PRICES also all descriptions of Mining Machinery, including GOLD AND SILVER AMALGAMATING MACHINERY complete Stamp Mills, Water Wheels, Steam Engines, &c.

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Author of "Gold Mining: its Results and its Requirements."  
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PRACTICAL HYPOMETRY: A Method of DETERMINING ALTITUDES (Heights of Mountains and Depths of Mines) accurately and almost instantaneously, with the Aneroid Barometer, WITHOUT TABLES.  
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In the High Court of Justice.—Chancery Division.

MR. JUSTICE CHITTY.

IN THE MATTER OF THE COMPANIES ACTS, 1862 AND 1867,

AND  
IN THE MATTER OF THE MORAY FIRTH MINING COMPANY (LIMITED),

TO BE SOLD, BY PUBLIC AUCTION, at the Mart, Tokenhouse-yard, Lothbury, in the City of London, by Mr. THOMAS BULL (of the firm of Messrs. Venton, Bull, and Cooper), on Tuesday, the 31st day of January, 1882, at Twelve for One o'clock in the afternoon, in one lot. The LEASE and MINING RIGHTS extending over an area of 150 acres, or thereabouts, in the parish of Drainie, on the shores of the Moray Firth, and close to Lossiemouth, in the county of Elgin, N.B., held direct from the Lord of the Manor at a dead rent, merging into a royalty for a term of 21 years, together with the extensive and newly-erected BUILDINGS, and the

VALUABLE PLANT, MACHINERY, AND STORES

Therein contained, all of which were new within the past 18 months, and include complete PUMPING, WINDING, CRUSHING, and DRESSING MACHINERY, besides a large quantity of STORES and LOOSE MATERIALS of first-rate quality.

Orders to view the property and detailed particulars of the Buildings, Plant, Machinery, and Stores thereon and therein, together with particulars and conditions of sale, may be obtained from the following Solicitors:—  
Messrs. GREENFIELD and ABBOTT, 37, Queen Victoria-street, London, E.C.;  
Messrs. G. and P. GATHERER, 30, North-street, Elgin, North Britain; and  
Messrs. CAMERON and ALLAN, Bank of Scotland, Elgin; also from the Official Liquidator, JOHN H. TILLY, Esq., F.O.A., 37, Queen Victoria-street, London, E.C., and of the Auctioneers, 35, Old Jewry, London, E.C.

IMPORTANT SALE OF  
SHARES IN LEVANT MINE,  
ST. JUST, CORNWALL.

MR. A. BERRYMAN has been instructed to SELL, BY AUCTION, at the Western Hotel, Penzance, on Thursday, 26th January inst., at Three P.M., ONE HUNDRED AND FIFTY SHARES (150-2500th) in the celebrated TIN AND COPPER MINE, LEVANT, ST. JUST. A profit of £215 was made at the last account (equal to a dividend of 10s. 6d. per share), and the future prospects of the mine are most encouraging.

Further information may be obtained of the purser, Capt. R. WHITE, or of the Auctioneer.—Dated 14th January, 1882.

FOR SALE, BY AUCTION, at the White Hart Hotel, Hayle

Cornwall, on Monday, the 30th day of January, 1882, at One o'clock P.M. precisely, without reserve, and in One Lot.

A new 50 inch cylinder single-acting CORNISH PUMPING ENGINE, with a STEAM CASE, and of 9 ft. stroke, equal beam, beam made of wrought-iron; TWO BOILERS, each of 8½ tons weight, with FITTINGS, PIPES, &c., complete; also TWO 11 inch PLUNGER BOTTOMS, with PUMPS, each for an 87 metre lift (about 47½ fathoms each); ONE 11 inch DRAWING LIFT and PUMPS for a 26 metre lift (about 15 fathoms); also wrought-iron bucket rods and connectors for wood main rods, and metallic rods for one wood balance bob. The whole may be seen at Messrs. Harvey and Co.'s Works, at Hayle.

The above are offered for sale because the purchaser has failed to complete his contract.

ALEX. BERRYMAN, Auctioneer.

Hayle, 10th January, 1882.

FOR SALE:—

ONE 50 inch and ONE 40 inch PUMPING ENGINES, with BOILERS and FITTINGS.

ONE 22 inch ROTARY ENGINE.

ONE 12½ inch HORIZONTAL ENGINE, with CAPSTAN and HAULING MACHINE attached.

All the above Engines are in first-class condition.

Several WATER-WHEELS, from 20 to 60 feet diameter. STAMPS AXLES, and a large quantity of SECONDHAND MINING MATERIALS.

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SVENNINGDAL SILVER MINE, in VEFSEN, Norway, FOR

SALE. The mine is advantageously situated; since 1878 worked with an average of 30 hands. The whole produce, 570 tons of ore, containing 0.40 per cent. to 1.00 per cent. of silver, besides lead, zinc, and a little gold. About 12,000 to 14,000 tons of poorer ores are laid up for dressing. Other promising indications close by.

Apply to the Directors, Mosjøen, Norway.

FOR SALE.—CHINA-CLAY WORKS, well situated in the

ST. AUUSTELL DISTRICT, with all requisite and substantially erected buildings thereon. The dues and cost of carriage are very moderate, and, under vigorous management, returns to market may be made within three months.

Easy terms will be proposed to a prompt bidder.

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ON SALE, NEW PAIR of 20 in. HORIZONTAL WINDING

ENGINES, 3 ft. 6 in. stroke, wrought iron cranks, crank shaft, 9½ in. diameter, 11 ft. 6 in. centres.

20 horse PORTABLE WINDING ENGINE, with two 10½ in. cylinders, link motion, and winding gear, drum 5 ft. 6 in. diameter, only worked a few weeks, and since been thoroughly overhauled by the makers; equal to new.

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STEAM BOILERS.—Three first-class Boilers, 30 ft. by 7 ft., two flues, Galloway tubes in, and fittings, four years old, insured at 75 lbs. pressure. Will be sold cheap.

BOILERS.—Two Boilers, 28 ft. by 7 ft., two flues. Been working at 65 lbs. Price on rails, £130 each.

Other sizes of Boilers in stock, in excellent condition, 28 ft. by 7 ft., 24 ft. by 7 ft., 24 ft. by 6 ft., 20 ft. by 5 ft., 15 ft. by 5 ft., and 12 ft. by 5 ft. Safe for 65 and 80 lbs. pressure. Very cheap.

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Also a 6 H.P. PORTABLE HOISTING ENGINE.

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Dated St. Ives, Cornwall, Jan. 18, 1882.

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ONE PAIR COUPLED HORIZONTAL CONDENSING PUMP-

ING ENGINES, cylinders 18½ inches in diameter, and 4 feet stroke. Heavy fly-wheel, 14 ft.; pinion, 4 feet 2 inches; spur, 11 feet 9 inches; pumping crank, wood connecting rods, and two cast-iron L legs.

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WANTED TO PURCHASE, a GOOD SECOND-HAND BLAST ENGINE and FITTINGS. State full particulars as to size of steam and blowing cylinders. Also BOILERS in good condition, and prices.

Apply by letter to "Cylinder," care of J. W. Vickers, 5, Nicholas-lane, Lombard-street, E.C.

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WANTED, a good DOUBLE-ACTING ROTARY ENGINE, from 22 to 26 in. cylinder, must be in first-class condition. Offers of the same, stating full particulars, to be sent on or before Tuesday, the 31st inst., addressed to Capt. SKEWIS, Clitters Mine, Gunnislake, Tavistock.

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(Signed) A. J. CAGNINACCI, Vice-President.

(Signed) VICTOR J. GRILLET, Treasurer.

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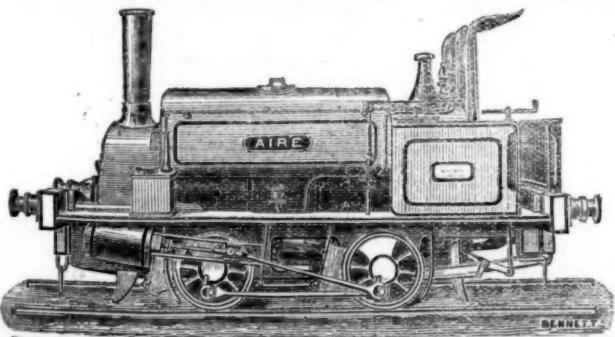
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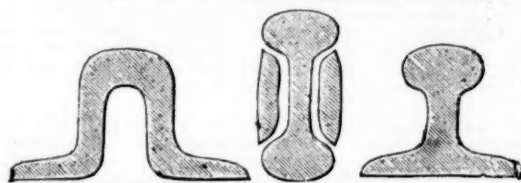
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		Direct Spanish	9	0	4 1/2
		Direct United States Cable	20	0	10 1/2
		Eastern	10	0	10
		East. Exten. Austr. and China	10	0	10 1/2
		German Union	10	0	11 1/2
		Great Northern	10	0	11 1/2
		Indo-European	25	0	28
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